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**CINC-ronization (Synchronization): The Critical
Tenent in Future Operational Art**

**A Monograph
by
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Infantry**



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<p>A number of dramatic international events have significantly altered the strategic environment facing the U.S. These changes have led to a shift in operational focus away from Europe to a wider range of contingencies in other areas of the world. These changes have also led to a vigorous reexamination of the roles, missions, and structure of the armed forces. As a result, future conflicts involving U.S. combat forces will likely be characterized by joint and combined operations on a scale not seen since World War II. The tenet which will be the key to success in these operations is synchronization. The purpose of this paper is to examine the critical synchronization issues confronting CINCs and Joint Task Force (JTF) commanders in joint and combined operations.</p> <p>(continued on other side of form)</p>			
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This study will examine this problem in the following manner: Initially, the future roles and missions of the military services will be examined. Then classical and contemporary theories will be examined as well as current doctrine concerning synchronization to determine their applicability to joint and combined operations. Next, potential difficulties in synchronizing joint and combined operations will be identified as well as suggested solutions using three of the operating systems developed in TRADOC PAM 11-9 (Draft); command, maneuver, and fires. Finally, Operation Husky will be analyzed as an example of joint and combined operations.

This study concludes that synchronization is largely misunderstood within the joint community. Synchronization efforts are also plagued by interservice rivalries. In light of the likelihood of future reductions in force structure, no single service can claim a paramount role in joint and combined operations. Finally, synchronized operations require that the CINC not only synchronize his forces but more importantly, he must synchronize operational activities and the consequences that result from these activities.. These consequences are fleeting, however. Therefore, with the forces available, the CINC must carefully allocate forces and resources to the critical activities that will allow him to achieve and concentrate the desired operational effects at the decisive point. This is the essence of the synchronization process.

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ABSTRACT

CINC-RONIZATION (SYNCHRONIZATION): THE CRITICAL TENET IN FUTURE JOINT OPERATIONAL ART. By Major Michael Errol Halth, USA, 75 pages.

A number of dramatic international events have significantly altered the strategic environment facing the U.S. These changes have led to a shift in operational focus away from Europe to a wider range of contingencies in other areas of the world. These changes have also led to a vigorous reexamination of the roles, missions, and structure of the armed forces. As a result, future conflicts involving U.S. combat forces will likely be characterized by joint and combined operations on a scale not seen since World War II. The tenet which will be the key to success in these operations is synchronization. The purpose of this paper is to examine the critical synchronization issues confronting CINCs and Joint Task Force (JTF) commanders in joint and combined operations.

This study will examine this problem in the following manner: Initially, the future roles and missions of the military services will be examined. Then classical and contemporary theories will be examined as well as current doctrine concerning synchronization to determine their applicability to joint and combined operations. Next, potential difficulties in synchronizing joint and combined operations will be identified as well suggested solutions using three of the operating systems developed in TRADOC PAM 11-9 (Draft); command, maneuver, and fires. Finally, Operation Husky will be analyzed as an example of joint and combined operations.

This study concludes that synchronization is largely misunderstood within the joint community. Synchronization efforts are also plagued by interservice rivalries. In light of the likelihood of future reductions in force structure, no single service can claim a paramount role in joint and combined operations. Finally, synchronized operations require that the CINC not only synchronize his forces but more importantly, he must synchronize operational activities and the consequences that result from these activities.. These consequences are fleeting, however. Therefore, with the forces available, the CINC must carefully allocate forces and resources to the critical activities that will allow him to achieve and concentrate the desired operational effects at the decisive point. This is the essence of the synchronization process.

Separate ground, sea, and air warfare is gone forever. If ever again we should be involved in war, we will fight it in all elements, with all services, as one single concentrated effort. Peacetime preparatory and organizational activity must conform to this fact. Strategic and tactical planning must be completely unified, combat forces organized into unified commands, each equipped with the most efficient weapons systems that science can develop, singly led and prepared to fight as one, regardless of service.

General of the Army Dwight D. Eisenhower
Quoted in Asa A. Clark, et al., ed. The
Defense Reform Debate: Issues and Analysis,
Baltimore, Johns Hopkins University Press,
1984, p. 295.

Now those skilled in war must know where and when a battle will be fought. They measure the roads and fix the date. They divide the army and march in separate columns. Those who are distant start first, those who are nearby, later. Thus the meeting of troops from distances of a thousand li takes place at the same time. It is like people coming to a city market.

Sun Tzu, The Art of War,
Translated by Samuel B. Griffith
New York, Oxford University Press,
1963, p. 99.

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I. INTRODUCTION

A revolution in military affairs could be in the making.¹

The recent events in Europe, punctuated by the success of Operation JUST CAUSE mark a shift in traditional U.S. defensive strategies. While the precise nature of this transformation is unknown, it is clear that the future will be marked by increasing fiscal austerity and an extensive recasting of defense priorities. As the noted defense analyst William Kaufmann suggests in the passage quoted above, these changes will likely affect our future approach to the conduct of war. The strategic and operational environment confronting the U.S. is changing rapidly from the familiar bipolar world characteristic of the cold war era to one that is increasingly multi-polar. Consequently, as a result of decreasing U.S. overseas presence, the apparent fracture of the Warsaw Pact, and the growing military sophistication of several emerging nations, the U.S. should emphasize threats other than the two extremes that have dominated previous defense policy: a major ground war in Europe and a nuclear attack by the Soviet Union. Future defense strategies must "consider a wider range of more plausible, important contingencies."²

Emerging doctrine has divided the contemporary strategic environment into an operational continuum made up of three conditions: peace, conflict, and war (Figure 1). Among the "wider range" of possibilities that will be covered in this study are peacetime contingency operations and wartime campaigns in theaters outside of Europe. The complexity of this environment implies that U.S. forces can become involved in operations short of war as well as declared or undeclared wars in which all three levels of the conflict spectrum (low, mid, and high) exist simultaneously. Or they could start out as low intensity conflicts but transition rapidly to mid or high intensity. Therefore, the U.S. cannot expect to encounter conflicts that can be cleanly or conveniently classified. Our response to such conflicts may also be equally complex.

Ideally, theater CINCs develop OPLANS for conducting operations short of war as well as war. Success in such operations will depend not only the development of "jointness" within the U.S. armed forces but also

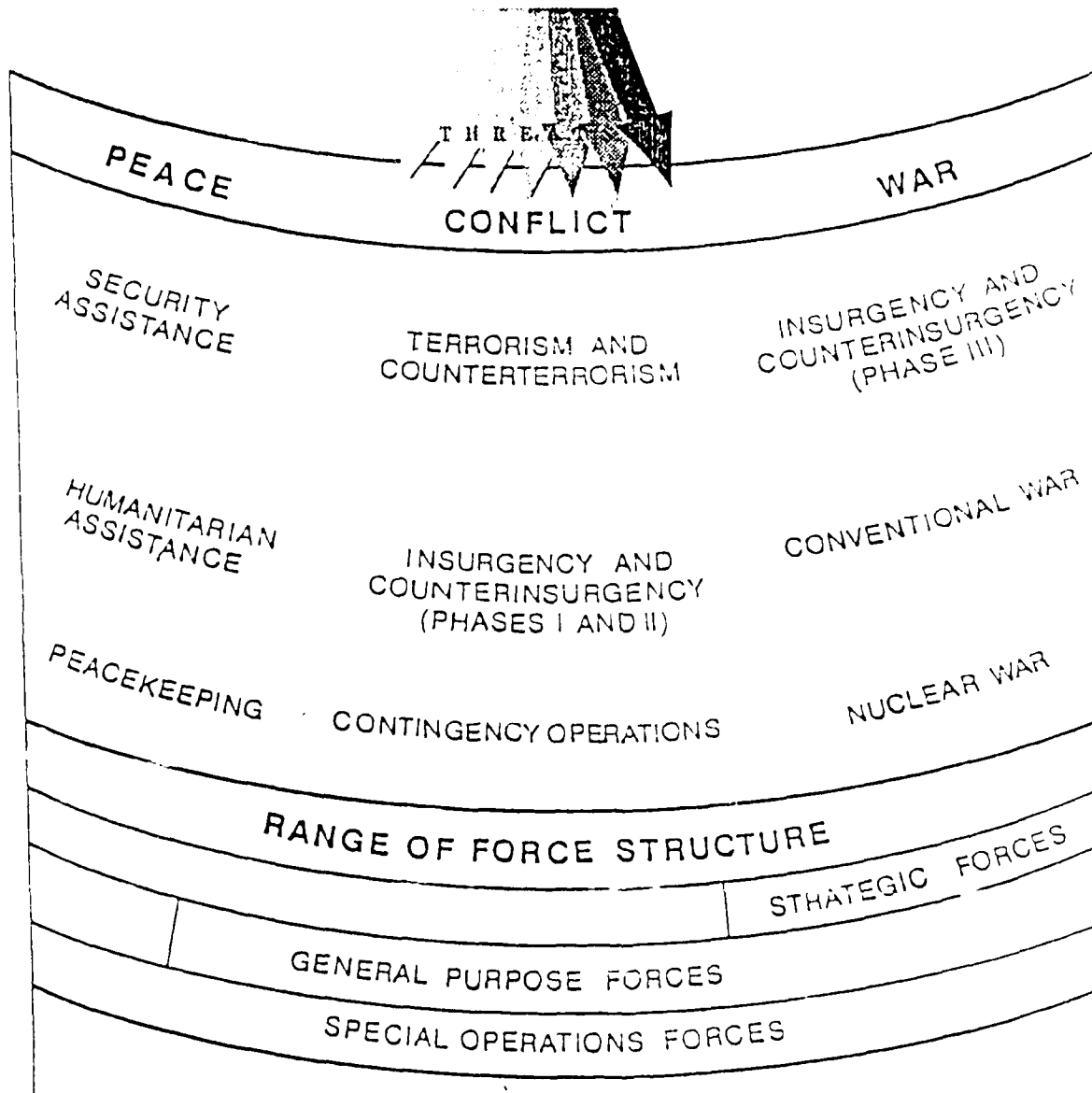


Figure 1. Operational Continuum.

Source: FM 100-25, Doctrine for Army Special Operations Forces, p. 1-9

on the ability of the U.S. to work effectively with a number of foreign military establishments.³ The transition to "jointness" has not come easily to the services. Nor are they in agreement on how to achieve "jointness" despite the 1986 DOD Reorganization Act. Recent debates demonstrate the continued existence of service parochialism that promises to intensify as each service attempts to redefine future roles and missions in order to minimize reductions in future appropriations.

Additionally, the U.S. is transitioning away from the traditional strategic and operational focus on Europe, placing more emphasis on the "intervention mission." This requires the synchronization of joint and combined operations on a scale not seen since World War II. Recent experience in Grenada and in joint and combined exercises and simulations has demonstrated the critical importance of synchronization. While the concept of synchronization provides part of the doctrinal foundation of AirLand Battle, there is no similar foundation to guide CINC's and JTF commanders in the planning and execution of joint and combined operations. The difficulties of integrating service and multinational components in contingency operations suggest the need to devote greater effort and attention to the issue of synchronization.

Synchronization is perhaps the least understood of the four basic tenets introduced into Army doctrine (agility, depth, and initiative are the other three) even though it has been an important concept since the publication of the 1982 version of FM 100-5, Operations. Defined as "the arrangement of battlefield activities in time, space, and purpose to produce maximum relative combat power at the decisive point," this has often been misinterpreted to mean orchestrating, harmonizing, or coordinating the employment of available resources.⁴ It is much more than these terms imply. It is both a process and a result as FM 100-5 correctly points out. Synchronizing activities achieves unity of purpose and effort throughout the force. It begins in the mind of the commander who determines how to arrange battlefield activities in order to concentrate sufficient combat power at the decisive point. Linking the effects of these activities at the proper place and time during the campaign is the criteria for measuring the success of the commander's synchronization efforts.⁵

Equally important is the understanding that although synchronization is an accepted concept of the Army and Air Force's doctrine of AirLand Battle, the U.S. Navy is not a subscriber. Additionally, this concept is not adequately addressed or required by joint doctrine. It is apparent that after nearly fifty years, General Dwight D. Eisenhower's contention that future war will be fought by all the services "as one single concentrated effort," has not taken firm root. Based on these considerations the basic question that this monograph will address is, 'What are the critical synchronization issues that will confront warfighting CINC's and JTF commanders in future joint and combined operations?'

This monograph will investigate this problem in the following manner: Initially, I will examine the future roles and missions of the military services. Then I will examine classical and contemporary theories on warfare as well as current doctrine regarding synchronization to determine their applicability to joint operations. Next, I will identify potential difficulties in synchronizing joint operations as well as suggested solutions using three of the operating systems developed by TRADOC PAM 11-9 (Draft-hereafter cited as TRADOC PAM 11-9); maneuver, fires, and command and control. Finally, the Sicily campaign-Operation Husky will be analyzed as an example of joint and combined operations.

The synchronization of operational activities will prove to be critical to success because of the complex demands of joint operations. This will place increased emphasis on understanding the ways in which service components as well as enemy capabilities interact. This requires that the joint commander master time-space relationships and possess an operational vision of the campaigns and major operations in his theater. As Lieutenant Colonel Robert B. Killebrew reminds us, the risks of miscalculation to U.S. security interests will be greater than ever before, "... the margin for error is much smaller, both vis-a-vis the Soviets and even in the heavily armed Third World. ... the consequences of U.S. failure are clearly more dangerous than they were 40 years ago."⁴

I. ROLES AND MISSIONS

The one thing we cannot afford to do is to follow our past practice of avoiding any changes in the roles and missions of our forces, avoiding changes in the priorities we give to our major commands, and cutting the budget and manpower for each service by roughly the same percentage.

Senator John McCain, January 1990⁷

A discussion of the roles and missions of U.S. military forces may appear unnecessary or unrelated in an examination of synchronization. FM 100-6, Large Unit Operations (Coordinating Draft-hereafter cited as FM 100-6) states however, that "Synchronization requires an understanding of the capabilities and limitations of each component of the friendly force."⁸ General Carl E. Vuono amplifies this message with his warning that recent dramatic changes in the international security environment and the domestic political situation places "far reaching demands on the U.S. military establishment, particularly on our conventional forces."⁹ As a result, the military will face an extensive and changing set of commitments in an era of declining resources. Meeting these commitments requires a coherent national military strategy that carefully balances interests, resources, and capabilities.¹⁰ It will also require a careful reassessment of the roles and missions of our military forces as Senator McCain suggests above. This reassessment is essential if we are to identify how the services are to operate together in the future to preserve American security interests. It also follows that synchronizing joint operations requires a thorough understanding of how these roles and missions may change in response to the new strategic environment.

U.S. MILITARY STRATEGY AND THE CHANGING STRATEGIC ENVIRONMENT

... we believe that the (international security) environment may change dramatically. Twenty years hence America may confront a vastly more complex environment, including some new major powers and new kinds of weaponry and alliances.

The Commission on Integrated Long Term Strategy
"Discriminate Deterrence," January 1988¹¹

U.S. national strategy has centered around the concept of containment and flexible response since the end of World War II. This

policy has rested on a military strategy of forward deployed forces backed by strong reserves and a capability to use nuclear weapons if required. It has also rested on a system of alliances with other nations that shared our interest in containing communist expansion. Only recently have international events demonstrated the success of this strategy.¹²

The primary legacy of the strategy of containment has been the operational emphasis on deterring (and if deterrence fails then on fighting) both a conventional and a nuclear war with the Soviet Union in Europe. These two extreme threats have dominated our defense policy and force planning into the 1980's. Crises in Iran, Afghanistan, Lebanon, and Central America and a rise in terrorism in the late 70's and early 80's have forced the U.S. to recognize that flexible response was not sufficiently flexible when it came to protecting U.S. interests outside the North Atlantic area. While a major war in Europe has been successfully avoided, small conventional wars and other forms of conflict some of which involved U.S. military forces, have occurred in abundance since 1945. To cope with this challenge, U.S. strategists initiated a shift in operational focus away from Europe that until recently has been resisted by all the services except the U.S. Marines Corps.

A large portion of the defense budget and approximately half of the active general purpose forces continued to be allocated to the defense of Europe in spite of the realization that the U.S. is far more likely to become involved in conflicts in the Third World rather than a war in Europe.¹³ The paradox is that the Pentagon continued until recently to prepare for the least likely occurrence at the expense of preparing for other conflicts. Critics argue that the U.S. prepared for the wrong war but noted analyst Jeffrey Record disagrees,

Predominant U.S. preparation for a NATO-Warsaw Pact war in Europe is eminently sensible and justifiable as long as it continues, as it has for the past 40 years, to deter effectively a war whose consequences could be far more catastrophic to the United States than those of almost any conceivable conflict elsewhere. . . . the cost of deterrence in Europe is high and is inevitably paid out in the form of reduced capacity to deal with other kinds of threats elsewhere. . . . That a war in Europe is far less likely to occur than small wars elsewhere does not mean that the United States can afford to ignore the consequences of failed deterrence in Europe. . . . A continuing ability to deter a big war in Europe is a precondition if not a guarantee of America's capacity to wage small wars successfully outside Europe.¹⁴

Events within the Soviet Union and in Europe have demonstrated that war is currently far less likely to occur than at any time since the establishment of NATO. Nevertheless, a commitment to the defense of Europe will remain an important part of U.S. defense policy.

A number of developments have altered the strategic environment outside of Europe in addition to the changes within NATO. These developments have accelerated the shift in operational emphasis away from Europe which began in the late 1970's. Demands on U.S. military power in these areas have risen dramatically and are likely to increase in the future. Such demands strongly argue for such a shift in focus as well as for fundamental alterations in strategy and force structure.¹³

The most immediate demands have come from the rise in conflicts at the low end of the spectrum. Former Secretary of State George Schultz stated that, "Low intensity conflict is the prime challenge we will face, at least through the remainder of the century. The future of peace and freedom may well depend on how effectively we meet it." Several key members of the Senate Armed Services Committee expressed their concern over U.S. inability to meet these threats effectively in a letter to President Bush's National Security Advisor Brent Scowcroft, "'As a nation we do not understand low-intensity conflict; we respond without unity of effort; we execute our activities poorly; and we lack the ability to sustain operations.'"¹⁴ Their concern took visible expression in 1986 legislation mandating reform and reorganization in this area. This legislation has not been fully implemented however.

Low intensity conflict is not the only aspect of change affecting U.S. interests outside Europe. Several states will soon develop or may already possess the capability to project power into their regional zones of interest. This new host of actors in possession of weapons of mass destruction will have the means to escalate and perhaps control the pace of conflict well beyond the low intensity level. This will result in "the emergence of a . . . conflict spectrum far broader than any thing we have known in the past two generations except at the superpower level."¹⁵ Deterring new powers will be difficult now that the logic of deterrence no longer follows traditional bipolar lines.¹⁶

Complicating the security environment will be the continued erosion of

the U.S. forward basing structure which we have long relied upon to move forces quickly to threatened areas. It is becoming increasingly difficult and politically costly to maintain bases overseas. It is at these distant points that we must deter or defeat aggressors but which are typically much closer to our adversaries than ourselves.¹⁹

U.S. strategy both national and military, must be flexible and versatile as a result of the changing security environment. As the Commission on Long Term Strategy recently concluded, U.S strategy must be integrated with new technological developments, force structure, mobility, nuclear arms negotiations and Third World threats.²⁰ It must also be integrated with the aims and interests of a host of potentially new allies whose assistance will be essential to promoting U.S security interests overseas. Finally, U. S. strategy must be integrated among the military services so that they view themselves as partners rather than competitors in this changing strategic environment. The strategic realities confronting the U.S call for new capabilities to project power over vast distances to areas vital to our security. This will require more mobile and versatile forces that can counter aggression by their ability to respond rapidly and discriminately to a wide range conflict.

IN THE AIR AND ON THE SEA

. . . Considering the nature of modern war, airpower can dominate not only the air but the land and sea as well. The Air Force must be able to deny control of the air to enemy air forces and to provide ground and naval forces the assistance necessary for them to control their environment.

General John D. Ryan, 1972²¹

In some respects there is not one U.S. Navy, but three, all wearing the same uniform: the surface navy, the air navy, and the submarine navy. Each competes for its preferred role in power projection.

John A. Williams in Armed Forces and Society, Summer 1981²²

It is not the purpose of this monograph to provide a detailed analysis of the current debates over the future roles and missions of the military services. It is only possible to address these issues briefly as they apply to campaigns and contingency operations. Because roles and missions imply certain capabilities, synchronizing joint and combined operations

requires an understanding of those roles and missions.

Like the Army, the operational focus for both the Air Force and the Navy has until very recently been war against their Soviet counterpart. The rising importance of the intervention mission has forced planners in both services to assess the implications of this shift in focus on their traditional roles and missions. The function assigned to the Air Force by Department of Defense Directive 5100.1 (DODD 5100.1), "Functions of the Department Of Defense and Its Major Components," is the responsibility to prepare "the air forces necessary for the effective prosecution of war and military operations short of war."²³ Air Force doctrine and NATO agreements divide this role into several missions that includes for the purposes of this study; counter air (offensive-OCA, and defensive-DCA), air interdiction (AI), offensive air support (OAS-which includes tactical air reconnaissance-TAR, close air support-CAS, and battlefield air interdiction-BAI), airlift, special operations, and aerospace maritime operations.²⁴ Mission priority depends on the situation, but counter air normally receives top priority.

In operations outside of Europe, the land based air power of the Air Force represents the most rapidly deployable and immediately responsive of U.S. forces. It possess several unique capabilities that make it effective in crises situations. In addition to its responsiveness, the Air Force has global range, carries a wide array of ordnance, can carry men and supplies faster than any other means, and provides timely and accurate reconnaissance and early warning. It also sends a clear message concerning American intent as Operation ELDORADO CANYON and the recent coup attempt in the Philippines so clearly demonstrated.²⁵

The Air Force is one of the most effective arms that the U.S. can employ and is essential to safeguarding our security interests abroad. Since 1945 it has been employed in 29% of the incidents involving U.S. forces in a power projection role. Employed appropriately, land based air power can make a decisive contribution to the CINC's campaign plan for contingency operations or war.²⁶

Like any of the services, the Air Force has significant operational limitations in responding to contingencies. Without basing and overflight rights, the Air Force is severely limited in its response capability.

Several of the overseas land bases the U.S. possesses are in unstable regions or in the hands of unreliable allies. Additionally, if an air base must be seized by force, security of the base will require land combat forces. In some situations, air power can even be inappropriate or counter-productive to the desired end state. It is also very difficult to sustain major ground operations entirely by air without severely degrading U.S. capabilities in other regions. Finally, previous examples show that air power has never proven decisive by itself nor are "surgical strikes" and deep interdiction as precise and effective as supporters claim. These capabilities and considerations must be thoroughly integrated into the campaign plan in conjunction with all other air elements.

The United States has been a major land and air power only since World War II, but it has always been a maritime nation whose links to the world economy are seaborne. As an island continent, America's natural advantage has always resided in seapower. The traditional role of the U.S. Navy remains the protection of the sea lines of communication which are vital both to the U.S. and to our allies. Extensive overseas security obligations resulted in an immense increase in U.S. naval power during the Reagan years.²⁷ Under the leadership of Navy Secretary John Lehman, the Navy's goal was a 600 ship navy built around 15 carrier battle groups. The justification is articulated in Lehman's and former Chief of Naval Operations Admiral James D. Watkins' "Maritime Strategy" which focuses defeating the Soviet Fleet as part of a major war in Europe. The receding Soviet threat has not resulted in a reassessment by the Navy of the need for a fleet as it is presently structured. The Navy believes that the shift in operational emphasis to power projection requires that the fleet retain its current strength, "Power projection covers a broad spectrum of offensive naval operations including (attacks against) . . . enemy targets ashore in support of air or land campaigns."²⁸

The merits of these arguments are beyond the scope of this study but as one observer argues, ". . . the line separating land and maritime theaters is fast becoming blurred."²⁹ Naval units have been used in over 80% of the incidents involving the use of U.S. military forces since 1945

while carrier battle groups have participated in over 65% of those cases. The likely areas of confrontation possess extensive and largely undefended coastlines which are generally accessible only from the sea by amphibious and heliborne forces. Protected by its organic airpower, the Navy and Marine Corps team can seize the coastal lodgements necessary for sustained inland combat. Naval surface forces can support such operations with a vast array of guns and missiles. With such awesome capabilities, maritime strategists argue that the mere presence of naval and seaborne forces may be sufficient to avoid crisis or confrontation. It is for these reasons that several observers argue that U.S. maritime forces should be our primary quick reaction power projection force.³⁰

There are several limitations on the use of naval forces that can reduce their utility in power projection. Carrier battle groups are expensive and vulnerable. This is an important consideration in an environment of fiscal austerity and increasingly sophisticated Third World countries. Additionally, the current Navy is designed for warfare at sea and many of the carrier battle group's ships and most of its aircraft are for self-defense. The aircraft are also few in number, have limited range, and were not designed exclusively for the support of ground operations. Furthermore, nations differ in their vulnerability to maritime pressure and naval forces have limited utility in areas beyond the reach of amphibious forces and carrier based aircraft. Finally, seapower like airpower can never be decisive by itself. Control of the sea is decisive only if it allows you to bring pressure against the enemy on land. Conflict termination remains a mission ill suited to the Navy.³¹

One final mission shared by both the Air Force and the Navy has not been mentioned. That mission is strategic lift. It is no exaggeration to say that synchronizing joint and combined contingency operations successfully will depend in large measure on the transport and arrival schedule as well as on our ability to sustain those forces in the theater.

The poor state of U.S. strategic lift is the most serious deficiency affecting U.S. capabilities to project power into likely conflict areas. These deficiencies are well known and are the subject of numerous articles and essays. This condition is likely to grow worse as access to overseas bases and forward deployed forces are reduced.

THE ARMY VERSUS THE MARINES

The Corps' ambition to be the premiere third world force is no secret.

General Alfred M. Gray, Commandant, USMC³²

. . . in most every case you can think of since World War Two, the Army and the Marine Corps have ended up on the same battlefield together.

General John W. Foss, Commander, TRADOC³³

Because the U.S. is both an aerospace and a maritime power, the substantial capabilities of the Air Force and the Navy amply illustrate the strategic versatility of U.S. forces. But the U.S. is also a land power. Its major conflicts in this century have all been determined on foreign soil.³⁴ Changes in the strategic environment and reductions in the defense budget have forced a reexamination of the roles, missions, and force structure of U.S. ground forces. A preliminary study led the JCS to conclude recently that the U.S. needed to "regain the qualitative advantage" in ground combat systems which is threatened by increasing military sophistication in the Third World.³⁵

The shift in emphasis to rapid reaction forces and contingency operations has major implications for the Army and the Marines. Both services seek designation as the power projection force of choice and have produced supporting studies for what is rapidly becoming a sensitive public debate. They have already implemented measures to achieve this end.³⁶ In spite of such service parochialisms, Army and Marine units will operate together as part of a joint force in future contingency operations. The key tasks facing both the Marines and the Army are identifying the roles each will play in such operations and synchronizing those capabilities to achieve maximum effect on the battlefield.

The Marine Corps is unique among the services in that its strength is statutorily mandated. In 1952 the Congress established the Corps at no less than three active divisions and three air wings. Currently, the primary role of the Marine Corps is to provide a combined arms force together with a supporting air component for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of

land operations that may be essential to the prosecution of a naval campaign. It is also tasked with other such duties as the President may direct.³⁷ It is this last mission and the frequent use of the Marines in the past as a rapid reaction force that supports their contention that they should be considered and are prepared to be the primary U.S. response in the power projection role.

Since becoming Commandant, General Alfred M. Gray has waged a very successful campaign to make the Marine Corps the force of choice in crisis situations. He has been so successful that these same critics believe that the Army has already lost its bid for a legitimate role in force projection. They also claim that he changed the name of Marine Air-Ground Task Forces (MAGTF) from "amphibious" to "expeditionary" to emphasize the strategic flexibility of the Marine Corps.³⁸ In truth, the Marines have been examining the problems of power projection for years.

Whatever the motive, Gray's objective is to tailor the MAGTF for an expeditionary future. Embracing William Lind's maneuver warfare doctrine, he has instituted a number of reforms known collectively as "Warfighting Enhancement Initiatives". Together with earlier reforms, the Marines currently possess substantial forced entry capability. They can project a MAGTF ranging from a reinforced battalion or MEU (Marine Expeditionary Unit) to a division (Marine Expeditionary Force-MEF) along with their accompanying air and service support units onto a hostile shore quickly and efficiently (figures 2-4). The MEF which is commanded by a three star Marine general is staffed and trained to control any additional Marine, Army or Allied troops introduced into the theater. The Marine Air Command and Control System can coordinate and control additional aircraft from the other services arriving to support the land operation. Finally, the Marines have an additional capability to rapidly reinforce with a Marine Expeditionary Brigade (figure 5) that has its equipment prepositioned aboard ship (Maritime Prepositioned Force-MPF). This requires a secure port or beach and an airfield.

Even though the Marines are highly flexible strategically, they are operationally and tactically specialized and limited. The Marine Corps is not structured, equipped, or trained for sustained combat or battle against a heavy mechanized opponent. Recent initiatives to lighten the

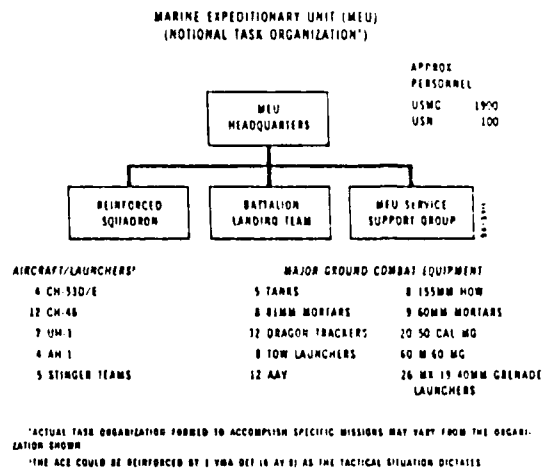


Figure 2. Marine Expeditionary Unit.

Source: CGSC ST 100-1. Navy and Marines Corps. p. 4-30.

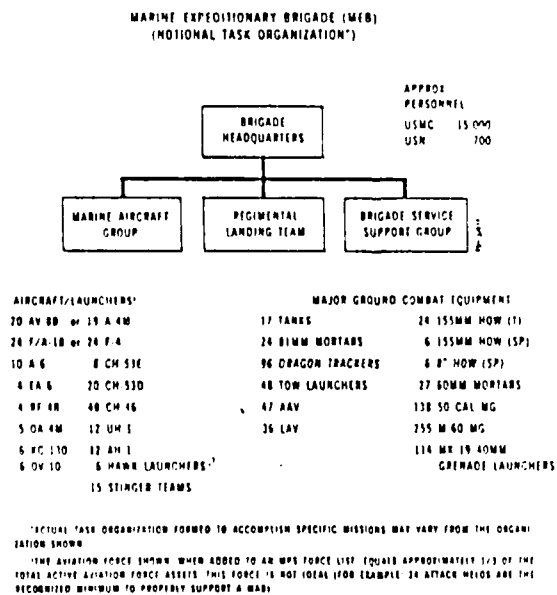


Figure 3. Marine Expeditionary Brigade.

Source: CGSC ST 100-1. Navy and Marine Corps, p. 4-31.

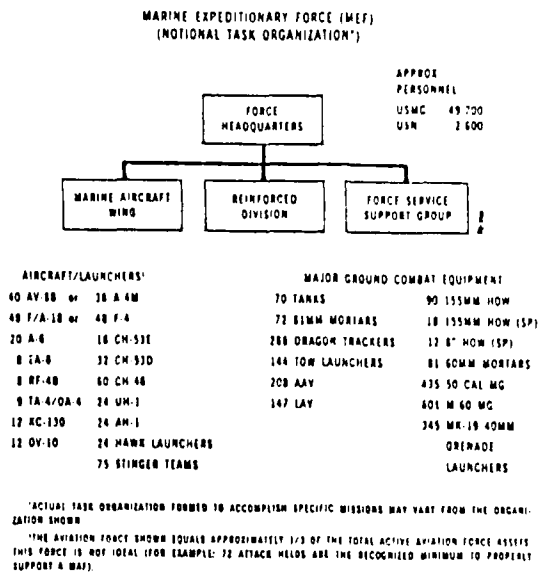


Figure 4. Marine Expeditionary Force.

Source: CGSC ST 100-1, Navy and Marine Corps, p. 4-32.

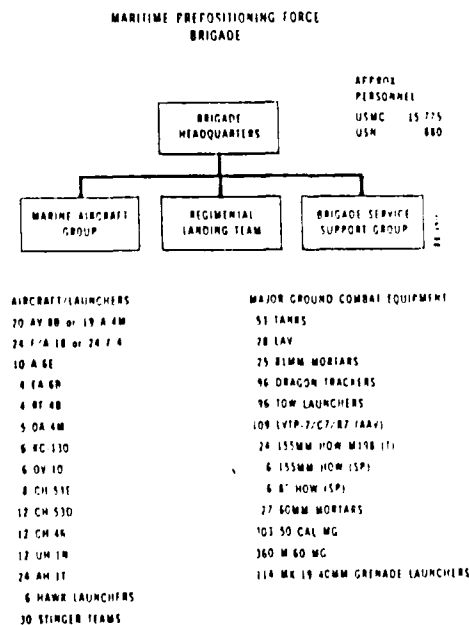


Figure 5. Maritime Prepositioning Force Brigade.

Source: CGSC ST 100-1, Navy and Marine Corps, p. 4-33.

Corps in order to improve mobility leave it even more vulnerable to potential opponents that possess significant armored forces.³⁹ The Marines are overwhelmingly dependent on their own air power to make up for deficiencies in artillery and ground mobility. They also lack logistical support for sustained operations. Additionally, because of their maritime orientation, they are inappropriate for projecting force into remote areas. Finally, it would take considerable time to mount an amphibious operation that required more than the MEU that is continuously afloat. Shortages of amphibious shipping and the practicality of maintaining larger units on ships suggests that the Marines are not the most rapidly deployable force available to a CINC despite Marine claims to the contrary.⁴⁰

The Army is the service most profoundly affected by the dramatic changes in the strategic environment. As General Vuono recently observed, the success of U.S. post-World War II strategy in which forward deployed Army forces in Europe and Korea played a key role is self-evident. This strategy will likely continue in the future but the scope of this role will be reduced as a result of improved security.⁴¹ While the role of the Army will remain the same; to conduct prompt and sustained combat on land to defeat enemy land forces and to seize, occupy, and defend land areas, there will be a shift in operational focus. Measures recently proposed by General Vuono would transform the Army from a service that has traditionally emphasized defending Europe with heavy forces into a lighter more flexible force that can be rapidly deployed to crises spots around the world. Vuono goes on to say that, "Today's already substantial active force capabilities for immediate contingency response will have to be maintained and possibly expanded."⁴²

Versatility and balance will be the essential characteristics of the Army of the 1990's in the face of cuts that may reduce active strength to around 630,000 soldiers. It will be impossible to field forces equipped and trained for specific threats. Consequently, Army forces must be context adaptable rather than context specific. This requires the correct mix of heavy, light, and SOF forces as well as adequate sustainment to

meet contingencies and conduct campaigns outside Europe that involve combat across the conflict spectrum.. The Army alone among the services maintains the heavy forces to conduct combat against a mechanized forces. It can field corps sized forces of 2-5 divisions reinforced with light infantry and attack helicopters to defeat militarily sophisticated opponents in a number of vital regions. The Army also possesses significant forcible entry capabilities in its special forces, ranger and airborne units. The Army has a full range of units to prosecute low intensity conflict that includes light units listed above, civil affairs, psychological operations, and special operations aviation. Finally, the Army has the capability to establish the logistical infrastructure for a theater of war. General Vuono believes that these capabilities make the Army the only force that can successfully terminate major conflict.⁴³

This versatility has a price, however. The Army is entirely dependent on the Navy and the Air Force for assistance in getting into the theater of operations. Shortages in strategic airlift raise doubts concerning U.S. ability to deploy sufficient forces to meet any but a lightly armed opponent. The Army's most rapidly deployable units are extremely vulnerable against heavy opponents while the light infantry divisions require a secured airfield before they can be employed. Several critics claim that the availability of strategic lift dictated the structure of U.S light units rather than mission requirements. Reinforcing heavy units from the U.S. will take weeks to arrive in the theater. In addition, the amount that you can resupply by air is insufficient for sustained operations and many of the Army service units needed to establish and sustain the logistical infrastructure are located in the reserve components. Such limitations place significant restraints on the employment of Army forces by a theater CINC.

SPECIAL OPERATIONS FORCES (SOF)

We must never forget that Special Operations have the capability of augmenting and complimenting conventional forces . . . they are not competitors, nor should they be isolated from conventional forces.

Secretary of the Army John O. Marsh, 1984⁴⁴

Special operations (SO) are inherently joint. Multi-service SOF are "rapidly employable, flexibly tailored and allow . . . a selective force projection." SOF can support conventional contingency operations short of war and all levels of war in deep, close, and rear operations. They are best employed in deep operations at the strategic or operational level by the CINC, theater of operations commander, or one of the component commanders in support of the theater campaign plan. They should be synchronized with other military efforts as well as with political, economic and psychological activities.

SO objectives in support of conventional operations are to gain intelligence, to alter the tempo of enemy operations, to interdict LOCs and high value targets, and to seize or deny the use of critical facilities. SOF may also play an economy of force role in secondary theaters of operations or on the flanks of the primary theater. These objectives are accomplished by assigning SOF unconventional warfare (UW), direct action (DA), or special reconnaissance (SR) and psychological operations (PSYOP) missions (Figures 6&7). These missions are aimed at conventional military centers of gravity and attack enemy vulnerabilities. The ultimate purpose of SO is to provide conventional commanders the time and space to conduct combat operations and opportunities for friendly decisive action.⁴⁵

SOF also play an important major role in close and rear operations. This is accomplished by assigning selected SOF PSYOP, civil affairs (CA), and foreign internal defense missions (FID). While SOF can also be tasked to conduct UW, DA, and SR in support of the close battle, this places a valuable asset at great risk that cannot be easily replaced.⁴⁶

CINCs and JTF commanders must understand the inherent limitations of SOF. They are not structured for every contingency. Commanders must assess the risk by comparing the value of the target and the possible loss of the force. SOF are also generally not designed to directly engage opposing forces for sustained periods. They must be rapidly reinforced or withdrawn. In addition, SOF missions normally cannot be repeated. Finally, SOF cannot sustain themselves for extended periods. Within these restrictions, commanders must strive for SOF interoperability and synergistic employment with conventional forces.⁴⁷

II. THEORY AND DOCTRINE

CLASSICAL THEORY

. . . the forces available must be employed with such skill that even in the absence of absolute superiority, relative superiority is attained at the decisive point. To achieve this, the calculation of space and time appears as the most essential factor, and this has given rise to the belief that in strategy space and time cover everything concerning the use of forces.

Carl von Clausewitz, On War⁴⁹

It has already been pointed out that current international trends suggest that future operational art will be increasingly characterized by joint and combined operations. The tenet critical to success in these complex multi-service and multi-national operations will be synchronization. Current Airland Battle doctrine defines synchronization as "the arrangement of battlefield activities in time, space, and purpose to produce maximum relative combat power at the decisive point."⁵⁰ It is both a process and a result that requires much more than the mere concentration of forces or the coordination of activities. In modern war, these activities can be separated in time and space but they are synchronized if their combined consequences are felt at the decisive time and place. Thus, the criteria for measuring synchronization is the degree to which the commander can concentrate the effects of battlefield activities at the decisive point and at the proper time. Achieving synchronization requires anticipation, a mastery of time-space relationships, and an understanding of the ways in which enemy and friendly capabilities interact. The result is maximum economy of force, and the most effective use of available resources where and when they will make the greatest contribution toward the desired end state.⁵⁰

The origins of operational art are found in the campaigns of Napoleon and it is Napoleon who initially demonstrated the critical importance of synchronization. His forces were organized into independent corps d'armee that were the first modern combined arms formations. Marching along separate routes in the "bataillon carre", Napoleon's aim was to concentrate his corps on the field of battle at the decisive time and place in order to destroy the enemy army. His victories established new

time-space relationships that revolutionized warfare. As the Chief of Military History General Harold Nelson states, "synchronizing those movements to make best possible use of all available roads to reach an agreed-upon point with full combat power at the ready was truly an art."⁵¹

The concept of synchronization was one of a number of theoretical principles that the two most noted Napoleonic interpreters Jomini and Clausewitz, discussed in their classic works on war. In The Art of War, Jomini captures the concept of synchronization in his fundamental principle of war,

to throw by strategic movements the mass of an army, successively, upon the decisive points of a theater of war, and. . . To so arrange that these masses shall not only be thrown upon the decisive point, but that they shall engage at the proper times and with energy.⁵²

Jomini clearly recognized that mere concentration at the decisive point was insufficient to achieve success. Concentration must also occur at the proper time. Consequently, synchronization requires accurate calculations of time and space as well as enemy behavior. This is consistent with current AirLand Battle doctrine despite the fact that the battlefield activities in the early 19th century were less complex.

Similarly, Clausewitz treated time, space, and the decisive battle as foundation stones in his theory of war. Discussions of their relationship appear frequently in his work, On War.⁵³ The passage quoted at the beginning of this section is but one example. He also recognized the synergistic effect of combat power concentrated at the decisive place and time,

. . . it cannot be the intent of the strategist to make an ally of time for its own sake, by committing forces gradually, step by step. . . all forces intended and available for a strategic purpose should be applied simultaneously; their employment will be the more effective the more everything can be concentrated [in] a single action at a single moment.⁵⁴

Like Jomini, Clausewitz can be excused for advocating the simultaneous concentration of forces rather than effects. Napoleonic campaigns were frequently decided by one decisive battle and therefore it was necessary to concentrate available forces and the effects of battlefield activities

more narrowly in time. Since that period, advances in warfare have extended both the depth and scope of the battlefield. Together however, they established a sound theoretical basis from which to examine the concept of synchronization and its application in contemporary warfare.

CURRENT DOCTRINE

Our successes are in great part due to the smooth synchronization of the power of the three arms. This, indeed, is the most vital factor in modern war.

General Douglas Macarthur, 1951⁵⁵

Operational art is defined in JCS PUB 3-0 as "the employment of military forces to attain strategic goals in a theater of war or a theater of operations through the design, organization, and conduct of campaigns and major operations."⁵⁶ It defines campaigns as,

. . . a series of related unified operations in a theater of war which are designed to achieve national or alliance strategic objectives. Subordinate campaigns are a series of related operations which are designed to achieve the CINC's strategic and operational objectives. A key characteristic of a campaign is the commander's calculated synchronization of land, air, naval, and space forces, as well as political and informational efforts to attain his strategic (and operational) objectives.⁵⁷

FM 100-5 states that the application of operational art requires the commander to answer several questions. Summarized, these questions ask the commander to determine "how . . . the available resources of the force [should] be applied to accomplish a sequence of actions" that will achieve the strategic goals.⁵⁸ Substituting synchronized for "applied" captures more completely the essence of the task that faces the joint commander. Synchronization implies a greater scope and more precision in the relationships between functions and activities in joint operations.⁵⁹ Synchronized operations also achieve unity of purpose throughout the command and results in the concentration of combat power that is greater than the sum of the individual components of the joint force. Finally, synchronized operations upset or desynchronize enemy plans.

Current joint doctrine states that the theater CINC and his

subordinate commanders synchronize joint and combined operations through the campaign plan. The campaign plan embodies the commanders intent. It is his vision of how he will conduct the campaign from the preparation phase through a sequence of military operations that may span the full spectrum of conflict to attain operational and strategic objectives. It is almost always joint in nature and seeks unity of effort among the assigned, attached, and supporting forces. The plan is supplemented with options in the form of branches to provide the flexibility to deal with changing situations, and sequels to exploit success or minimize losses depending on the outcome of battles.⁴⁰

Current doctrine also states that "the campaign plan synchronizes the land, sea, air, and space effort" into a cohesive and synergistic whole against the enemy center of gravity. It does this by establishing command relationships among the joint or combined commanders and the land, sea, air, and special operations component commanders. Additionally, the campaign plan synchronizes actions by describing the concept of the operation and the concept of support, by assigning tasks, and by task organizing.⁴¹

A question that is frequently asked is "who prepares campaign plans?" Commanders with strategic objectives and the authority to compel the synchronization of joint and combined efforts at the operational level of war should write campaign plans. This includes theater of war commanders even when he divides the entire theater of war into subordinate theaters of operations and does not directly command warfighting components. The CINC's campaign plan synchronizes the theater of operations' warfighting efforts by providing for the phased apportionment of resources in accordance with his concept of the operation.⁴²

A theater of operations commander is also at the operational level of war applying the efforts of his forces toward the strategic goals assigned by the CINC. He should prepare a supporting campaign plan. In addition, since the operational level of war relates to the strategic aim and not the size, echelon or type of formation involved, no particular echelon of command is involved. If a joint task force (JTF) is created and given a mission of sufficient scope, requiring the phasing of major operations to achieve a strategic objective, then the JTF prepares

a campaign plan.⁴² Finally, component commanders and supporting CINCs with warfighting roles develop operations plans to direct major or collateral operations in support of the campaign plan(s). These plans are usually prepared concurrently and also require synchronization.⁴⁴

Joint operations do not occur only in wartime and campaign planning cannot wait until the outbreak of war. The campaign plan is "the operational extension of the CINC's strategy for peace and crisis (conflict), as well as war." Therefore, campaign planning will also include the preparation of contingency plans for threats to U.S. interests in peacetime and conflict. Such peacetime contingency operations are politically sensitive and involve the short term rapid projection of forces in conditions short of war. While they are categorized as a part LIC, they may involve combat actions across the conflict spectrum and can mark the transition to war. Doctrine states that planning for these types of joint operations is frequently conducted using the crisis action process. Whether these operations result from crisis planning or the deliberate planning process, they are like the campaign plan for war, the CINC's primary instrument for synchronizing execution.

III. SYNCHRONIZING JOINT OPERATIONS

Synchronization is the responsibility of the maneuver commander.

General William E. Depuy⁴⁵

While the preceding discussion highlights the critical importance of synchronization, it does not provide adequate guidance to the joint commander on how to synchronize joint and combined operations at the operational level of war. Several authors contend that this partly explains why it is the least understood of the four basic tenets of AirLand Battle doctrine.⁴⁶ JCS PUB 3-0 Doctrine for Joint Operations (Final Draft), the doctrinal capstone publication for joint operations, dedicates one brief paragraph to the synchronization process. It states that synchronization is achieved by establishing command relationships, describing the concept of the operation, assigning tasks, and task

organizing.⁴⁷ This is clearly an important part of the synchronization process. However, this does not address the time, space, and purpose relationship of the many operational activities that are conducted as part of a campaign. Neither is the essential link established between the consequences and effects of these operational activities and the decisive point(s) in the campaign. Finally, commanders must also synchronize the phases of the campaign as well as major and collateral operations. This involves an understanding of the concepts of sequencing, culminating points, and operational pauses. This complex process requires more doctrinal guidance than the simplistic comments that establish synchronization as a requirement for operational success.

The absence of synchronization procedures and techniques within joint doctrine is due to the fact that there is no uniform understanding of synchronization. A few aspects of the synchronization process appear in joint doctrine such as unity of purpose and space and time factors, but they are scattered under other headings. Additionally, synchronization is frequently misunderstood to mean the same as coordinate, integrate, or harmonize. These terms are often used interchangeably in doctrinal publications. There is also no consistency in defining battlefield activities nor is there any complete listing of these activities.⁴⁸

Interservice rivalry also partially explains the absence of a joint synchronization model or methodology. One of the chief responsibilities of the J-7 Directorate is to publish joint doctrinal manuals. However, the services and not the joint staff were tasked to develop joint doctrine for thirty five subjects. One author argues that this will result in continued service parochialism and separate warfighting doctrine.⁴⁹ In addition, the Air Force and Navy persist in basing future strategy, force structure, and doctrine on the conduct of their traditionally independent missions of airspace and sea control.⁷⁰ Recalling that operational synchronization is the arrangement of operational forces and activities in time, space, and purpose to produce maximum relative combat power effects at the decisive point, the process must be recognized as inherently joint. Without interservice cooperation, developing a common model for synchronizing joint operations may take years to achieve.

A SYNCHRONIZATION METHOD

There has been considerable attention focused on synchronization at the tactical level of war. At this level, combined arms operations are well understood and experience at the National Training Center has improved Army expertise. Functions associated with the tactical level have analogues at the operational level. However, the scale and scope of operations at the operational level alters the way these functions are executed and synchronized. Forces are more prone to be used in isolation, "forfeiting the synergy which results from synchronization."⁷¹

Synchronization at the joint operational level requires that the value and the risks associated with the employment of an asset be evaluated in terms of the overall operations of the joint force and not in the narrow context of the capability. In that vein, FM 100-6 states that operational commanders make few decisions in the course of the campaign and that decisions are not easily changed.⁷² This is suggestive of the observation proposed by the famous Prussian Field Marshal Helmuth von Moltke, "An error in the original concentration of armies can hardly be corrected during the whole course of a campaign." Because the consequences are more significant at the operational level, synchronization must be an integral part of the planning process.⁷³

A methodology for operational level synchronization can be developed by expanding the efforts of Major Clyde L. Long who examined synchronization in the battalion task force. This methodology focuses on the six operational operating systems described in TRADOC PAM 11-9, Blueprint of the Battlefield (Draft-figure 8).⁷⁴

The perspective of the Operational Blueprint is both joint and combined and is intended to apply to operations across the conflict spectrum. It also provides a method for examining all types of missions and operations in terms of the same common elements. This promotes a joint approach for synchronizing operational requirements and capabilities. It also promotes the consideration of all available assets capable of achieving or contributing to the desired operational effect.⁷⁵

The six operational systems of the Operational Blueprint are "the major functions occurring in the theater (or area) of operation, performed by

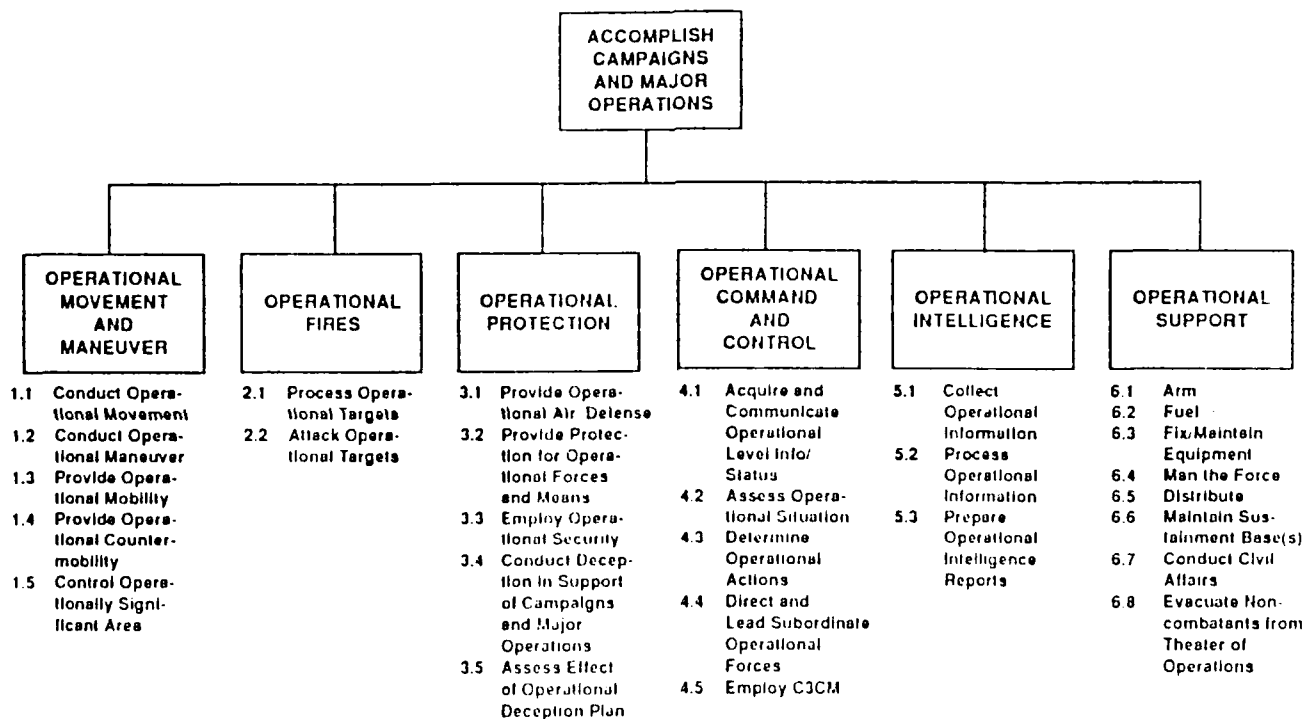


Figure D. Six Operational Level of War Operating Systems (OOS).

Source: TPADOC PAM 11-9 (Draft), Operational Blueprint, p. C-2.

joint and combined operational forces, for successfully executing campaigns and major operations to accomplish the strategic objectives of the unified commander."⁷⁶ The Blueprint organizes these functions in a way that eliminates traditional branch and service component orientations and classifies them based on similarity of purpose or intent.⁷⁷

Although they were designed primarily for combat development purposes, the major functions also serve as a common base for identifying, grouping and synchronizing those "critical combat activities." These activities generally require capabilities from more than one branch or service component for their successful execution and they frequently vary both in terms of capabilities mix and the degree to which particular capabilities are needed.⁷⁸

Like other doctrinal literature, TRADOC PAM 11-9 does not provide a specific definition or comprehensive listing of major operational (or battlefield) activities. It simply states that activities are what forces must do to accomplish the mission. A more useful definition of operational activities is: "A major or collateral operation, mission, or task conducted as part of a campaign that can be reduced to time."⁷⁹ The activities identified in TRADOC PAM 11-9 and listed under each operating system are generic and are applicable to all types of operations under any set of conditions (Figures 9-14). For a specific campaign, for example, "conduct amphibious operations" would come under the maneuver system. The point to remember is that all major and collateral operations as well as other operational activities can be grouped under one of the operating systems.

The key operating phrase contained in the definition of Synchronization is "the arrangement of 'major operational activities' in time, space, and purpose." TRADOC PAM 11-9 addresses activities and purpose but not time and space. As Major Long correctly points out, time is the critical element in synchronization. Each activity has a time factor associated with it and there are numerous manuals which provide guidelines and planning factors for estimating the time required to accomplish an activity.⁸⁰ Likewise, space is merely the area in which the joint force operates as well as the LOCs that support the force. All activities must be conducted in both of these mediums.

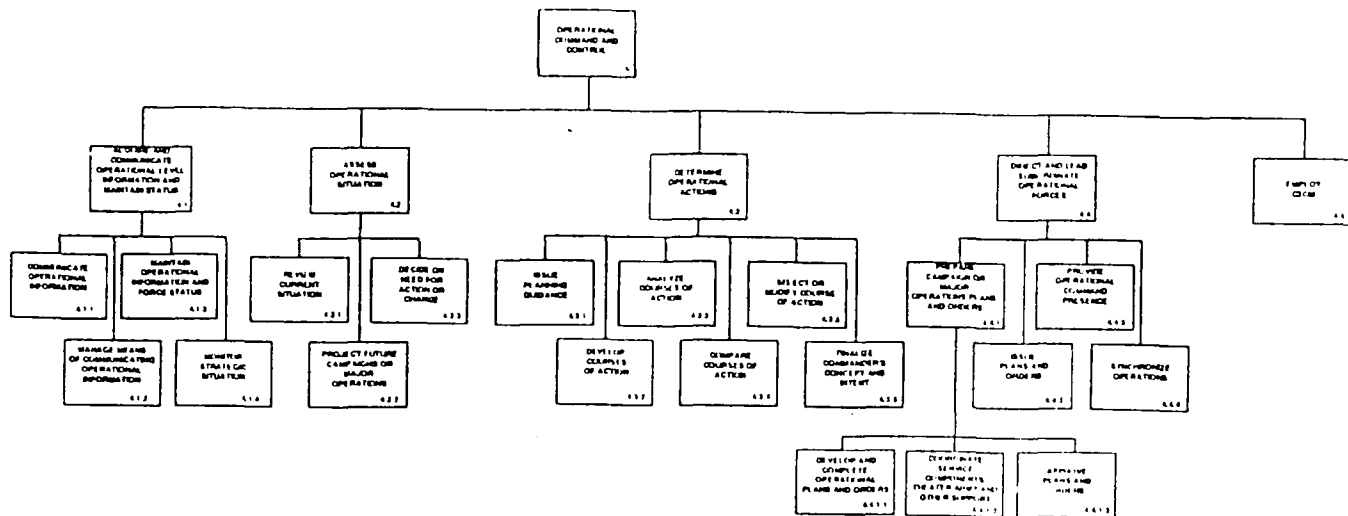


Figure 9. Operational Command and Control.

Source: TPADOC PAM 11-9 (Draft). Operational Blueprint, p. 4-10.

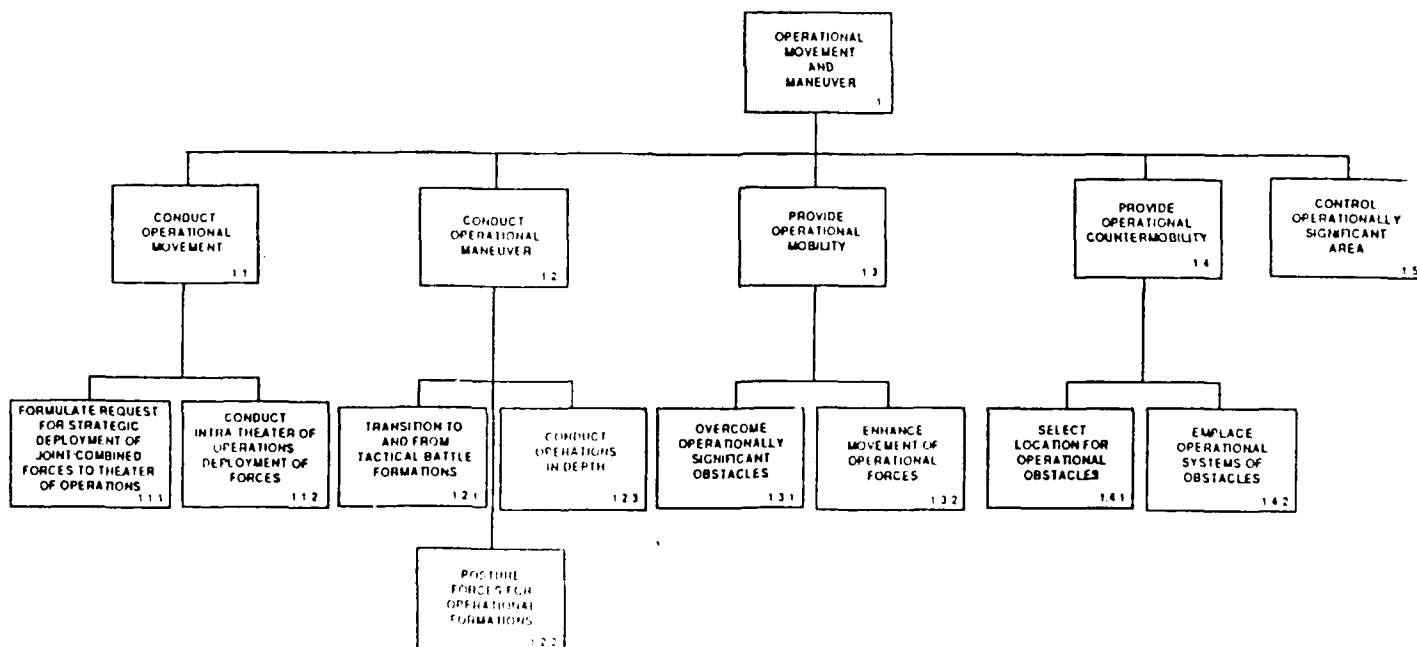


Figure 10. Operational Movement and Maneuver.

Source: TPADOC PAM 11-9 (Draft). Operational Blueprint, p. 4-3.

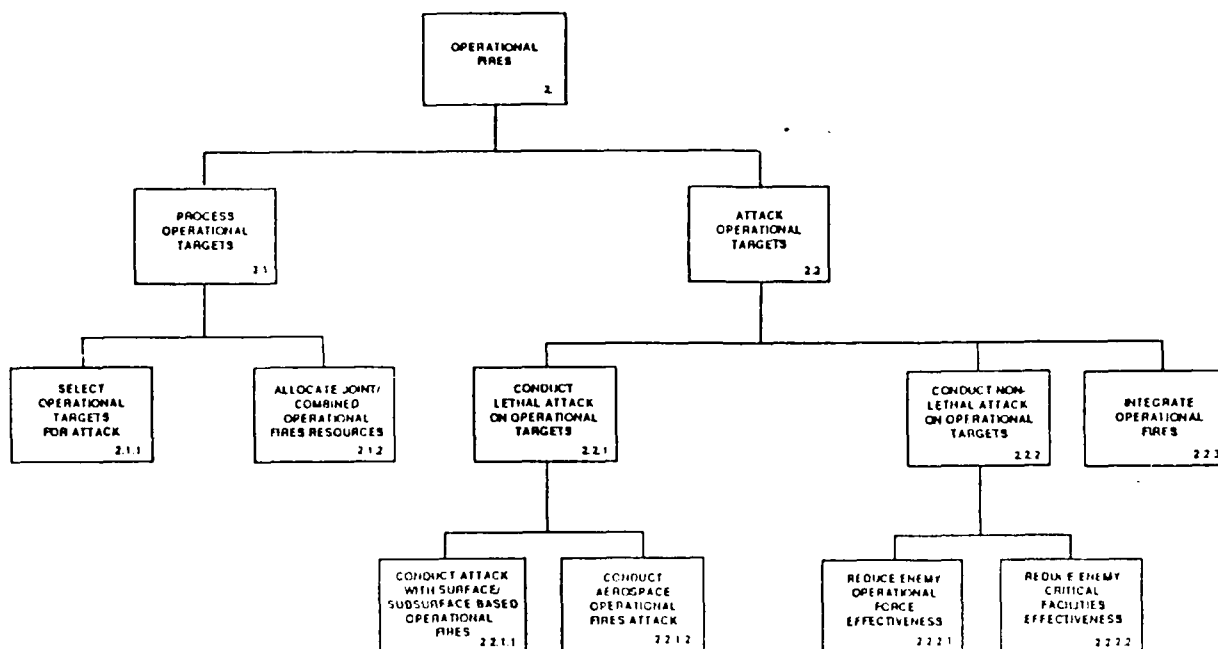


Figure 11. Operational Fires.

Source: TRADOC PAM 11-9 (Draft), Operational Blueprint, p. 4-5.

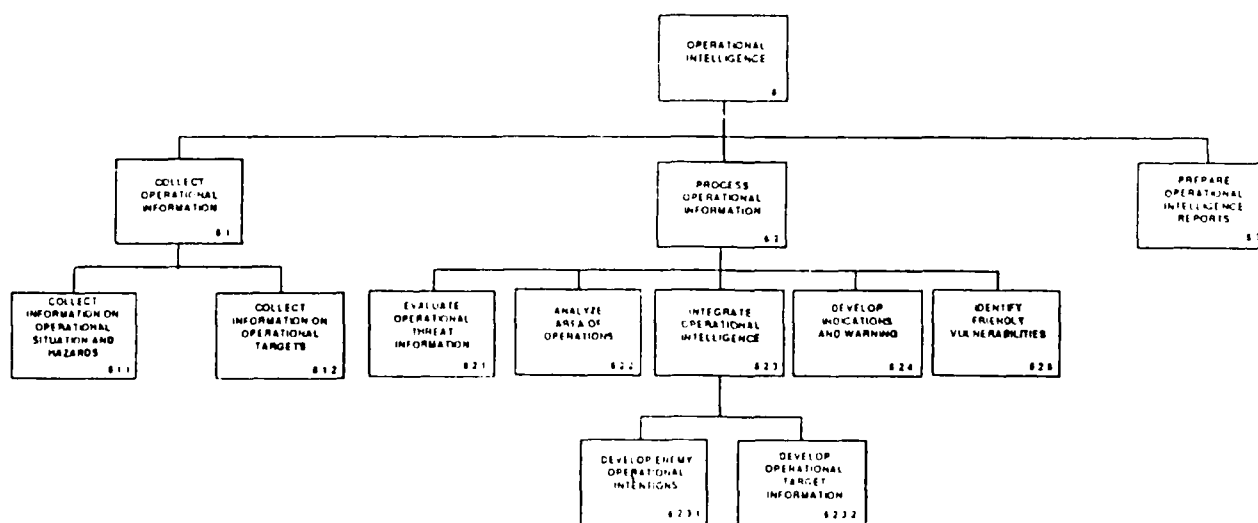


Figure 12. Operational Intelligence.

Source: TRADOC PAM 11-9 (Draft), Operational Blueprint, p. 4-13.

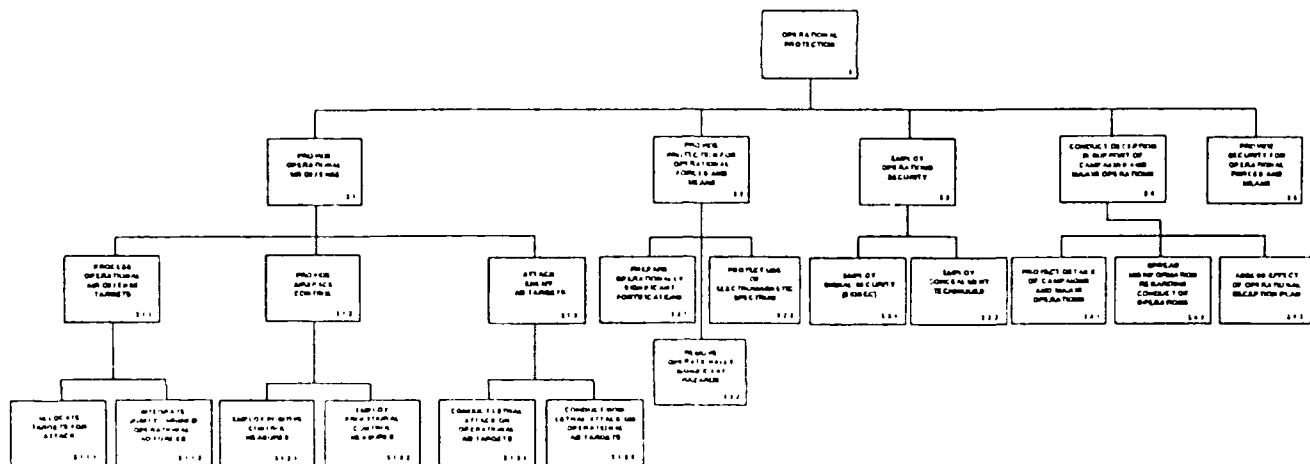


Figure 13. Operational Protection.

Source: TPADOC PAM 11-9 (Draft), Operational Blueprint, p. 4-7.

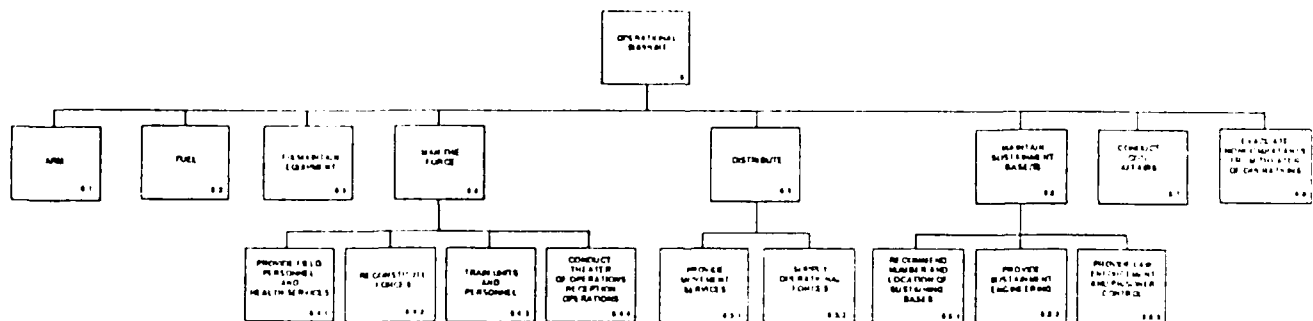


Figure 14. Operational Support.

Source: TPADOC PAM 11-9 (Draft), Operational Blueprint, p. 4-15.

The arrangement of these activities in time and space can be accomplished using a matrix that expands on the synchronization matrix developed for the tactical level of war found in CGSC Student Text 100-9, The Command Estimate (Figure 15). With the operational matrix, time is measured in days using D-Day and M-Day as the key reference points.

An operational synchronization matrix is illustrated in figure 16. It portrays a hypothetical scenario for a theater of operations organized with individual component commands. Within each of the operating systems, there is a additional subdivision along component lines. This represents the joint nature of the operating systems where functions are performed by air, sea, land, and space forces.

For purposes of this examination, only three of the operating systems will be developed. These are command and control, movement and maneuver, and fires. While all major functions must be synchronized as well as activities within major functions, space limitations prohibit further coverage. These three functions are sufficient to illustrate the dynamics of the synchronization process.

OPERATIONAL COMMAND AND CONTROL

Command and control synchronizes and coordinates combat power on the battlefield and provides direction to the fight.

Field Circular 101-55, Corps and Division Command and Control^{a1}

There is considerable disagreement between service and joint doctrine concerning the precise meaning of the term "command and control." It is beyond the scope of this monograph to attempt to resolve this debate. It is sufficient to say that it is vital to the synchronization process.

TRADOC PAM 11-9 states that "the operational command and control operating system is the exercise of authority and direction by a properly designated commander over assigned operational forces in the accomplishment of the mission." It goes on to say that critical command and control functions are performed by assigning missions, areas of responsibility, and resources as well as establishing command relationships.^{a2} Coincidentally, JCS PUB 3-0 states that the commander

SYNCHRONIZATION MATRIX (A)

Time		
Enemy Action		
Decision points		
M A N E U V E R	Deep	
	Security	
	Close	
	Reserve	
	Rear	
Air defense		
Fire support		
IEW		
Engineer		
Sustainment		
C2		

Figure 15. Tactical Synchronization Matrix.

Source: CGSC ST 100-9, The Command Estimate, p. 45.

Synchronization:		The arrangement of operational forces and activities in time, space, and purpose to produce maximum relative combat power at the decisive point.					
OPERATIONAL SYNCHRONIZATION MATRIX							
Time:			M-Day/ /D-10	D-Day	D+5	D+10	D+15/ / D+N
I N T E L	EN COA						
	C	NCC					
	O	ACC					
	L	GCC					
M O V E & M A N E U V E R	L	SOC					
	NCC						
	ACC						
	GCC						
F I R E S	SOC						
	NCC						
	ACC						
	GCC						
P R O T E C T	SOC						
	NCC						
	ACC						
	GCC						
C2	SOC						
	NCC						
	ACC						
	GCC						
S U P T	SOC						
	NCC						
	ACC						
	GCC						

Figure 16. Operational Synchronization Matrix

synchronizes joint operations by establishing command relationships, by assigning tasks and allocating resources. Therefore, as figure 9 points out, exercising command and control includes synchronization.

Synchronization at the operational level of war requires the commander to exercise command and control in a manner that maximizes decentralized execution and promotes risk taking. He achieves this by issuing mission type orders that focus on what must be done leaving sufficient latitude to subordinates to determine how to get it done. This is possible only if subordinate commanders have a clear understanding of the CINC's vision of the overall conduct of the campaign. He articulates this vision in the campaign plan in his concept of the operation.

It has long been recognized that a prerequisite for the effective employment of military forces is a clear and simple commander's concept of the operation. The concept of the operation is the key to the synchronization process. In the words of General William E. DePuy, "The scheme of maneuver (concept of the operation) is the first and great requirement. The second, which is like unto it, is synchronization."³³ This concept which includes the commander's intent, determines the end condition and conceptualizes the sequence of events and the application of resources related in time and space that will likely produce that condition. It also extends the commander's intent throughout the force. This allows each subordinate commander to develop his concept in harmony with the higher commander. This "nesting of concepts" provides an "unambiguous unity of purpose" throughout the force. Properly implemented, the concept of the operation "provides the basis for task organization, tasks to subordinates, . . . synchronization, and identification of critical collateral operations." In summary, it provides the substance of the operational synchronization matrix. Conversely, the matrix is the graphical expression of the concept of the operation.³⁴

Another vital aspect of command and control in the synchronization process is the establishment of command relationships. These relationships are fluid and dependent on the sequence of operations and subsequent phases of the campaign. Doctrinally, the commander is normally selected from the service contributing the preponderance of forces in a theater. Command relationships could change depending on the arrival of

forces into the theater. For example, if a naval task force consisting of a MAGTF, an amphibious group, and a carrier battle group are the initial forces employed in the campaign, then it is probable that the commander of the naval task force would be designated the naval component commander. He or a deputy would be designated as the air component commander while the MAGTF commander could be the land component commander. The arrival of Air Force units could require a change to that relationship as would the arrival of more Marine or Army forces. Finally, as the theater matures, it may become necessary to activate an Army Group, Tactical Air Force Headquarters, or separate special operations command. The timing of changes must be thoroughly understood and clearly designated in the commander's concept and continually refined in the wargaming process. These changing relationships can be represented graphically on the synchronization matrix (figure 17).

Designating command relationships for the the various phases of the campaign does not always insure effective or synchronized command and control. FM 100-5 states that, "the ultimate measure of command and control effectiveness is whether the force functions more effectively and more quickly than the enemy."⁸⁵ Yet, several factors work against the commander's ability to synchronize joint command and control. They include poor staff planning and execution procedures, complicated command structures, and no of unity of command.⁸⁶ These problems are caused by the reluctance of the services "to accept substantial unification within the unified commands" and an "absence of agreement on appropriate command relationships, especially concerning the principle of unity of command."⁸⁷

These obstacles to effective joint command and control are especially evident in the Air Force and the Navy. Both have developed an "independent vision" of the purpose and use of their forces. They assert that no one except their own commanders understands how to employ their assets. To place these forces under the command of anyone else risks their destruction, or at the very least, will result in improper employment. One critic argues that the interference of service parochialism in the synchronization process requires that the personality of the commander becomes "the sole critical life line enabling synchronization" of joint operations. Lieutenant General John H. Cushman, who has written

OPERATIONAL C2 The exercise of authority and direction by a properly designated commander over assigned operational forces in the accomplishment of the mission.						
TIME	D-N/	/D-10	D-5	D DAY	D+5	Operational
						Pause D+10
NAVAL COMPONENT COMMANDER				FLEET COMMANDER		D+15
AIR COMPONENT COMMANDER				NAVAL AIR COMMANDER		ATAF COMMANDER
GROUND COMPONENT COMMANDER				MAGTF CDR	ABN CORPS CDR	ARMY GROUP COMMANDER
SPECIAL OPERATIONS COMMANDER						

Figure 17. Operational Command and Control Synchronization Matrix

extensively on joint command and control, labels this "the wall of the service component." He maintains that despite the passage of the Goldwater-Nichols Act, service loyalties, doctrine, and operating methods remain entrenched.⁸⁸

General Cushman believes that the solution to the problems of joint command and control lies in assigning a stable all-service force to each warfighting CINC. He could then train them for employment in the variety of conditions under which they might be required to fight. This would eliminate the current ad hoc nature of joint operations by establishing long term working relationships. This would also result in a joint team under a stable chain of command that is far more likely to achieve the "unambiguous unity of purpose" essential to synchronized operations.

OPERATIONAL MANEUVER

It is the effective teamwork and close tactical cooperation between . . . the floating navy and the marines, the army, airborne troops, and air forces that have enabled our forces to break through coastal fortifications, to overcome, by frontal assault or maneuver the resistance of the strongest fortresses to be found anywhere in the world.

Stefan F. Possony, Marine Corps Gazette, June 1945⁸⁹

Maneuver is the dynamic element of combat power. It is primarily through the union of maneuver and fires that we seek to destroy the enemy's center of gravity and shatter his cohesion "through a series of rapid, violent, and unexpected actions." This creates a turbulent and rapidly deteriorating situation with which he cannot cope.⁹⁰

As Clausewitz states in On War, it is the effect of maneuver on the enemy forces with which we are concerned.⁹¹ The traditional concept of maneuver involves space; forces maneuver in space to gain a positional advantage. However to maximize the effect or consequences of maneuver, we must also consider maneuver in time. It is through maneuver in both dimensions that we attempt to generate a faster operational tempo than our opponent's in order to achieve superiority at the decisive point. The factors of time, space, effects, and the concept of the decisive point lie at the heart of the synchronization process.⁹²

TRADOC PAM 11-9 includes operational movement in the same operating system with maneuver. Together they pertain to the movement and disposition of all operational forces (air, land, and naval forces) in joint or combined operations to create a decisive advantage over the enemy in the conduct of the campaign or major operation. The movement is from their base(s) of operations to their point of concentration.²³

Movement and maneuver are keyed to positioning operational forces to defeat the enemy's center of gravity in order to achieve the strategic aim or the operational objectives of the campaign or major operation. This includes the disposition of forces before or during battle to gain operational advantage and after battle to exploit success. The movement and maneuver operating system also provides for controlling the land, sea, and airspace required to achieve operational or strategic advantage over the enemy. Finally, this operating system includes activities that improve our mobility and counter the mobility of the enemy.²⁴

Linking movement to maneuver is significant. Operational movement is the strategic deployment of the CINC's forces to his AOR and the shifting of forces within the theater. The arrival of these forces must be timed and sequenced to support his scheme of maneuver. The time phased force deployment list can also determine the campaign's phases, the sequencing of major or collateral operations, or the need for an operational pause. This will be dependent on a variety of factors which includes the availability of forces, airfields, ports, beaches, strategic lift, and sustainability. While operational movement will not be discussed further due to space limitations, it is important to recognize the requirement to synchronize movement with maneuver at the operational level of war.

Synchronizing the forces that execute operational maneuver and synchronizing the effects created through maneuver with the consequences of other operational activities produces synchronized operations. It is both a process and a result. As BG Huba Wass de Czege argues in his essay "Understanding and Developing Combat Power", it is the combination of effects thus created which contribute to the concentration of combat power at the decisive point. Operational maneuver seeks surprise and shock effect. This enables the commander to seize the initiative and a positional advantage that throws the enemy off balance upsetting his

synchronization efforts. From this position, the enemy's center of gravity is destroyed or threatened with destruction by uncovering his defenses or exposing weaknesses in the disposition of his forces.⁹³

Surprise, shock, and positional advantage are effects which are time sensitive. These effects must be exploited before they are lost. Subsequent maneuver and fires must be timed and sequenced; in other words, synchronized, to take advantage of the consequences of operational maneuver in order to be decisive and to retain the initiative.

An example of this time and space sensitivity can be found in Operation MARKET GARDEN conducted in September of 1944. The Allies intended to drop the First Allied Airborne Army deep into the operational depths of the German defenses in Holland to seize several key bridges. An armored thrust would then take advantage of the surprise and shock achieved by vertical envelopment to gain a bridgehead across the Rhine and to threaten the Ruhr. The failure of this major operation was due in large measure to the inability of the Allies to take timely advantage of the surprise and positional advantage gained by the airborne forces.

It also illustrates two important factors which the commander must take into account in attempting to synchronize maneuver with other battlefield activities; knowledge of the capabilities of both enemy and friendly forces. Operational synchronization is not a process which is independent of the opposing forces. Likewise, the commander must understand the capabilities of his own forces so that he avoids the assignment of missions which are beyond their capabilities or do not utilize the full range of their capabilities.⁹⁴ This issue is particularly relevant to the synchronization of future joint and combined operations.

Today, the U.S. possesses unequalled force projection capabilities. In spite of claims to the contrary by each of the services, operational maneuver in the future will likely be joint or combined. Major Michael L. Parker terms such joint operations "triphibious campaigning" and defines it as "employing, involving, or constituted by naval, land, and air forces and often including airborne troops in coordinated attack." This term expands the traditional amphibious concept into three dimensions by adding vertical assault elements. Amphibious and air delivered forces maneuver to strike the flanks and into the operational depths of the

enemy to be followed by the handover of battle to heavier combat forces. This represents a modernized version of the Napoleonic concept of synchronization; moving dispersed and concentrating to fight. While these separate operations may not occur simultaneously, they must be synchronized to take advantage of the effects that result from each as well as the effects created by other operational activities.

Continuing the hypothetical scenario, synchronizing the maneuver of joint forces conducting mutually supporting operations can be reflected on the operational synchronization matrix (figure 18). Any number of operational maneuver schemes exists, this example represents only one such possibility. The critical point to understand is that each activity or operation establishes the conditions for or depends upon the effects achieved by other operational activities. The cumulative effect of sequential and simultaneous operational maneuver is the concentration of the consequences of maneuver at the decisive point in the campaign.

OPERATIONAL FIRES

Fire is the decisive factor in achieving victory over the enemy.

Chris Bellamy, Red God of War.

1986⁹⁷

The passage cited above summarizes the Soviet view of fires in their theories concerning the practice of operational art in modern war. They reached this conclusion through extensive analysis of their experience during The Great Patriotic War. In the U.S., the concept of operational fires is relatively new. Current Army doctrine defines it as "the application of firepower to achieve a decisive impact on the conduct on the campaign or major operation . . . (they) are by their nature joint/combined activities or functions."⁹⁸ They are generally designed to achieve a single operationally significant objective. Together,

Fire and maneuver are an integral part of the campaign plan. Thus, the coordinated use of both should be evident throughout the campaign. Fires are used to create opportunities for maneuver, and maneuver exposes enemy forces to the concentration of fires. Fires include the whole range of land, air, and naval capabilities -- conventional, chemical and nuclear.⁹⁹

OPERATIONAL MOVEMENT & MANEUVER		The disposition of joint and/or combined forces to create a decisive impact on the conduct of a campaign or major operation by either securing the operational advantages before battle is joined or exploiting tactical success to achieve operational or strategic results.						Operational		End
TIME	D-N/	/D-10	D-5	DDAY	D+5	Pause D+10	D+15	D+20/	/D+N	
NAVAL COMPONENT COMMANDER	Strategic Deployment		Amphibious Operation				Amph Demon Fleet &MEF			
	Fleet		Fleet							
AIR COMPONENT COMMANDER	Strategic Deployment to Staging Area		AbnOp		Deploy to AOR					
	MAC		MAC							
	Strategic Deployment to Staging Area ATAF									
GROUND COMPONENT COMMANDER	Strategic Deployment to Staging Area		Major Operation Est Lodgement MEF w/82Abn			Deployment to AOR				
	Heavy Corps					Heavy corps				
	Strategic Deployment to Staging Area					Major Operation				
	Abn Corps					Breakout				
SPECIAL OPERATIONS COMMANDER	Strategic Deploy to Staging Area Afloat		MEF		Abn Corps					
	Strat Deploy to AOR									

Figure 18. Operational Movement and Maneuver Synchronization Matrix

Finally, operational fires are planned and synchronized at the operational level of command.

The planning of operational fires differs from fire support planning at the tactical level. FM 100-6 suggests that operational fires are not fire support at all, but rather a coequal component with maneuver. The tactical approach to fire planning is "bottom up." Fire plans are initiated at the lowest level, then consolidated and reconciled at each successive higher headquarters. Operational fires are planned "top down". Objectives, resources, and targets are designated and synchronized by the operational commander and the plan is then passed to joint or allied units for execution.¹⁰⁰

Operational fires focus largely on one or more of three tasks: facilitating maneuver to the operation depths of the enemy; isolation of the battlefield and interdiction; and destroying critical functions and facilities that have operational significance. The clearest example of the first form of operational fires was the carpet bombing that preceded Operation COBRA; the breakout from the Normandy beachhead. An example of the second type was the Transportation Plan executed as part of the Normandy campaign to cut the LOCs into the beachhead area, isolating the battlefield. Finally, the Soviet concept of the air offensive is an example of the third form of operational fires. It seeks to disrupt or destroy command and control facilities, ADA assets, bridges, and nuclear delivery means as well as achieve air superiority.¹⁰¹

Current Army doctrine states that operational fires are provided largely by theater air forces.¹⁰² This view is too narrow and could result in the failure to include land and sea surface systems as well as other forces that do not provide operational fires in a traditional manner. Technological improvements to existing systems, doctrinal innovation that develops new roles and missions for existing forces, and the introduction of new systems will drastically alter the concept of operational fires. ATACMS and MLRS are examples of the latter while Air Force, SOF and naval forces can be employed in a theater wide joint interdiction operation.

Another issue facing the commander will be the allocation of assets that can provide both operational fires and tactical fire support. This includes multi-role aircraft, Army and Navy surface delivered missile

systems, and Naval gunfire support. There are insufficient assets available to dedicate them to either role exclusively. In addition, the operational effects achieved will be fleeting. Therefore, operational fires must be sequenced in both space and time to achieve maximum effect at the decisive point to coincide with the maneuver scheme and the consequences of other battlefield activities.

This dilemma highlights the critical importance of operational synchronization. As FM 100-5 states, "the product of effective synchronization is maximum economy of force, with every resource used where and when it will make the greatest contribution to success and nothing wasted or overlooked."¹⁰³ Some of the functions of operational fires may be grouped or combined into collateral operations requiring their own concept of operations, assigned forces, and internal synchronization.¹⁰⁴ The commander's concept must provide the blueprint for synchronizing these fires. The operational synchronization matrix developed here is a tool that can graphically portray that concept. Figure 19 is an example using the operational fires operating system.

HISTORICAL EXAMPLE

OPERATION HUSKY-THE SICILY CAMPAIGN

The Allies should have ended the (Sicily) campaign with a stunning victory; instead, by any objective assessment, they gathered a harvest of bitter fruit.

Carlo D'Este, Bitter Victory: The Battle for Sicily, 1943¹⁰⁵

The Sicily Campaign provides an excellent example for examining operational synchronization in joint and combined operations. It was a relatively brief campaign (38 days) and therefore suggests some parallels to the campaigns and contingency operations that observers claim will characterize conflicts in the future. It was also a joint and combined operation involving British and U.S. forces from each of their services. Finally, the synchronization issues that faced Dwight D. Eisenhower, the CINC for the campaign, are strikingly similar to those that will face

OPERATIONAL FIRES		The application of firepower to achieve a decisive impact on the conduct of the campaign or major operation.					Operational		End
TIME		D-N/	/D-10	D-5	D DAY	D+5	D+10	Pause	CbtOps D+15 D+20/ /D+N
NAVAL COMPONENT COMMANDER	Facilitate					Protect&Support Amphib Op			pro/spt Amph Demon
	Maneuver					Fleet Amphib&Surf Gp			Fleet Amphib&Surf Gp
	Interdict/					Interdict Enemy Sea Lines of Commo & Isolatev Battlefield			
	Isolate								
AIR COMPONENT COMMANDER	Destroy								
	Fac/funct								
	Facilitate					Spt Abn/Amphib Op			Spt Amphib Demon
	Maneuver					Fleet Naval/Marine Air			Fleet Naval/Marine Air
GROUND COMPONENT COMMANDER	Interdict/					Interdict Enemy Air LOCs			Intdt Strat Res ALOCs
	Isolate					Fleet Naval&Marine Air			Destroy ATAF ATAF
	Destroy					Gain Air Superiority			En AF SEAD Maint Air Super
	Fac/funct					Fleet Naval&Marine Air			ATAF ATAF ATAF&Naval
SPECIAL OPERATIONS COMMANDER	Facilitate					Long Range Missile Fires=LRMF			Spt Breakout
	Maneuver								LRMF
	Interdict/								Intdt Strat Res
	Isolate								LRMF
SPECIAL OPERATIONS COMMANDER	Destroy								ADA
	Fac/funct								LRMF
	Facilitate								
	Maneuver								
SPECIAL OPERATIONS COMMANDER	Interdict/								
	Isolate								
	Destroy								
	Fac/funct								

Figure 19. Operational Fires Synchronization Matrix

today's warfighting CINCs. Before turning to those issues, a brief summary of the campaign is required.

The Allies strategic objectives for the campaign were established at the Casablanca Conference in January 1943. They were to secure Mediterranean sea lanes, divert pressure from the Russian front, and to intensify pressure on Italy to drop out of the war. There were a number of other vital strategic and operational issues that were left unresolved (see discussion below) when the Allies initiated the invasion with airborne landings on 10 July 1943 (figure 20&21). Fifteen minutes later, soldiers of General Sir Harold Alexander's 15th Army Group, consisting of George S. Patton's Seventh Army and Sir Bernard L. Montgomery's Eighth Army, landed on the southern and eastern coasts, respectively.

After defeating vigorous Axis armored counterattacks on the 10th and 11th which almost threw the Americans into the sea, the Allies began the ground assault toward Messina with the Eighth Army as the main effort along the east coast road. The Seventh Army protected its left flank and rear. On the 12th when it appeared that the Allies would finish off the defenders quickly and drive through to Messina, Alexander permitted Montgomery to alter the plan. Instead of moving along a single axis of advance and throwing the entire weight of his army against the defenders in Catania, Montgomery split his corps into a two pronged effort around both sides of Mount Etna. This pinched off the advance of Seventh Army.

This constituted the turning point of the campaign. From this point onward the course of the campaign could not have proceeded much differently with the Axis forces and not the Allies dictating the operational tempo. Relieved of the tremendous American pressure, the Axis forces were allowed sufficient time to prepare a series of strong defensive lines from which they conducted a slow and systematic delay. The campaign degenerated into little more than digging the enemy out of strongpoints. Even these tactics were not successful until Patton's forces were turned toward Messina after his spectacular but largely irrelevant drive into Palermo. The Allies entered Messina on the 17th of August only after the Germans evacuated all of their men, equipment, and supplies. While the Allies had succeeded in seizing Sicily and driving Italy from the war, it was not the decisive victory they had hoped for.¹⁰⁶

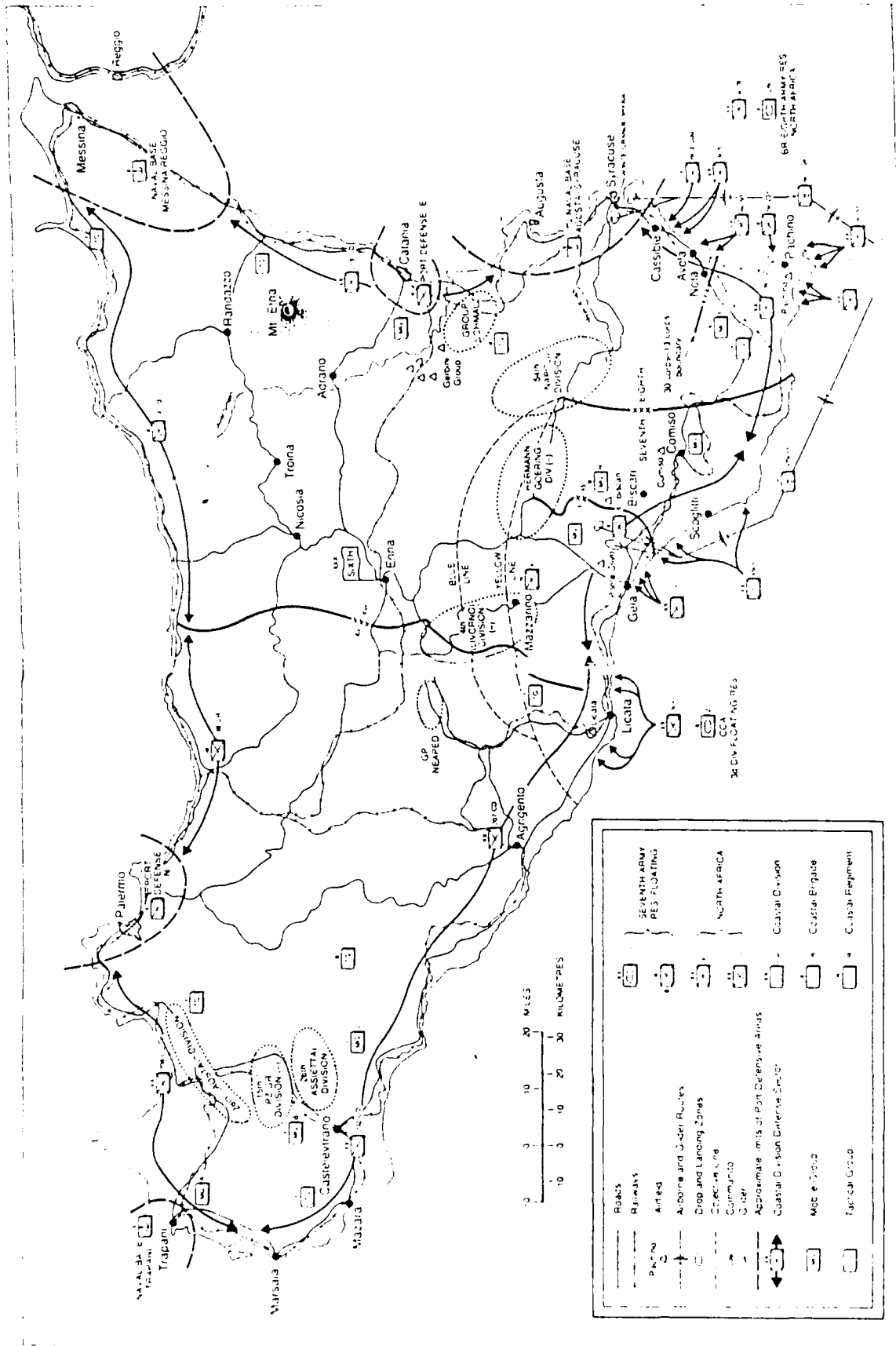


Figure 20. The Final Invasion Plan
Source: Carlo D'Este, *Bitter Victory*, pp. 147-8

The Final Invasion Plan

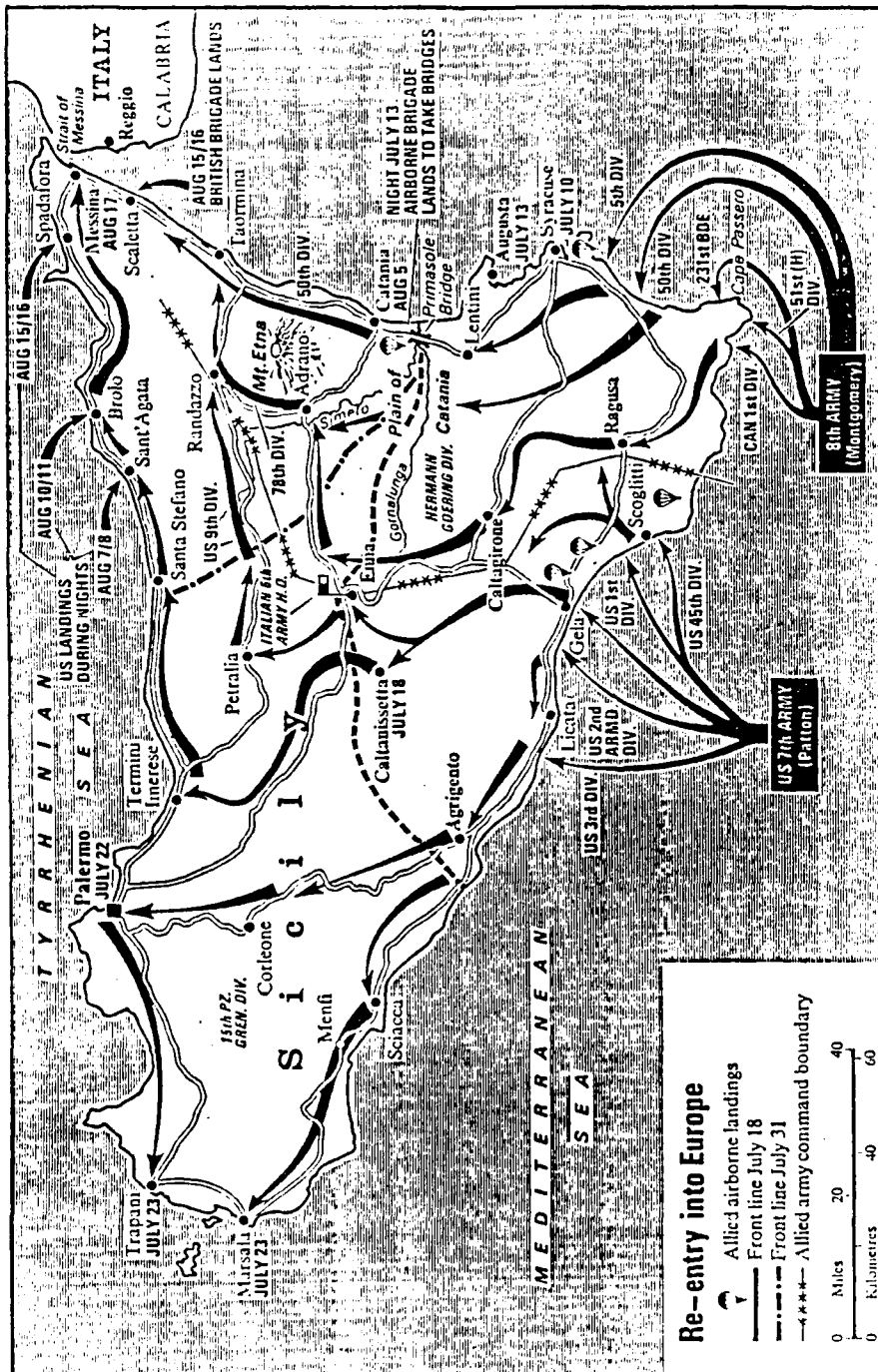


Figure 21. The Sicily Campaign

Source: B.H. Liddell-Hart, *History of the Second World War*, p. 434.

OPERATIONAL COMMAND AND CONTROL

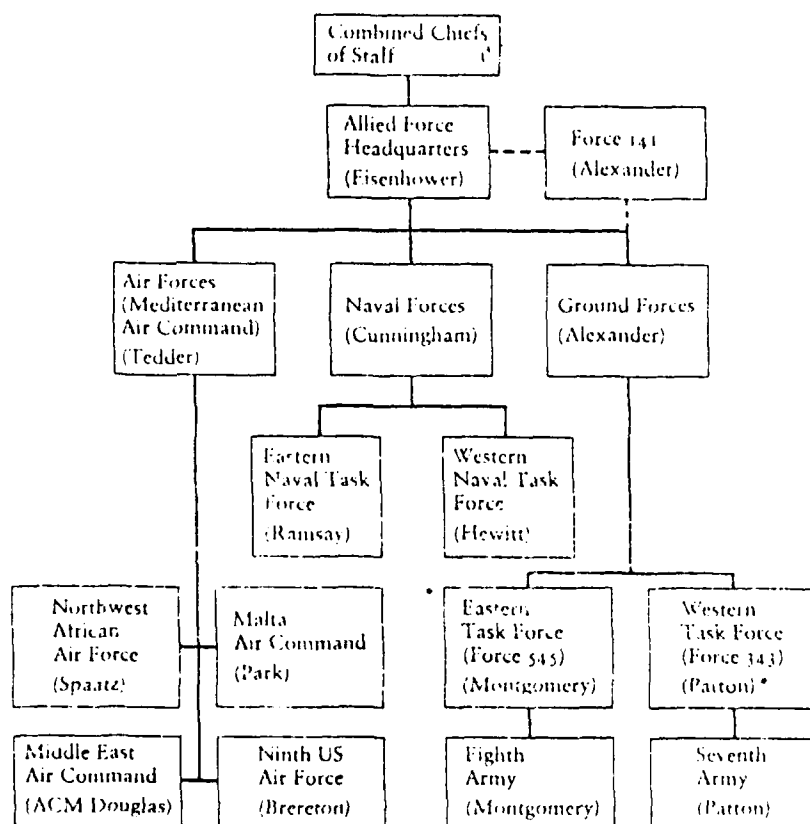
Flaws in operational command and control undermined Allied synchronization efforts in the Sicilian Campaign. JCS PUB 3-0 states that the commander synchronizes land, sea, and air operations through the campaign plan by establishing command relationships among the component commanders. From the time of its inception, Operation Husky was plagued by problems of organization. As part of the Casablanca decisions, Operation HUSKY would be like the Tunisian campaign "conducted under the control of a triumvirate of commanders, rather than under the direction of one."¹⁰⁷ On the surface the HUSKY command structure resembles the way a theater of operations would be organized under current joint doctrine. Eisenhower as Commander of Allied Force Headquarters (AFHQ) was the CINC of the Mediterranean Theater of Operations. General Alexander was his Ground Component Commander (GCC), Air Chief Marshal Sir Arthur W. Tedder was the Air Component Commander (ACC), and Admiral Sir Andrew B. Cunningham was the Naval Component Commander (NCC-figure 22). In the words of the Army's official history of the campaign,

General Eisenhower was to act as a sort of chairman of the board, to enter into the final decision making process only when the board members presented him with unsolved problems. If the three board members agreed on policy, there was little that Eisenhower could do to change the policy unless he was willing to dispense with the board members' services. Eisenhower was raised far above the operational level; only indirectly could he influence the course of operations once that course had been agreed on by his committee of three.¹⁰⁸

This committee system of coalition warfare would prove to be wholly ineffective and "simply meant that each of the commanders went his own way, leaving the whole less than the sum of its parts."¹⁰⁹

The problems created by this command structure were compounded by the fact that Eisenhower failed to establish a joint command headquarters for HUSKY. There had been general agreement before the end of the North African campaign that there would be a joint HQ established for HUSKY similar in concept to a modern joint task force (JTF). The Navy soon declined and Cunningham moved his staff to Malta forcing Alexander to move there, also. Tedder chose to remain near Tunis while Eisenhower

Organization of the Allied Forces in the Mediterranean*



* HUSKY planning was accomplished within each of the Army headquarters. Until D-Day, 10 July 1943, Patton's headquarters was called 1 Armored Corps.

Figure 22. Allied Command Structure-Operation HUSKY.

Source: Carlo D'Este, Bitter Victory, p. 599.

stayed in Algiers. The operational forces were located in numerous places, some in the United States. These arrangements so alarmed the British Chiefs of Staff that they voiced their misgivings to Eisenhower in a message in mid-June, "We cannot disguise our concern that owing to the difficulties over communications, Cunningham, Tedder, and Alexander will not share same HQ for HUSKY operation . . . separation of HQs violates one of the most important principles of combined operations." The only alteration made worsened the situation when Alexander transferred his HQ to Sicily after the beachhead was secure.¹¹⁰

Command problems had their greatest impact on planning. It has already been noted that the CINC and his subordinate commanders synchronize joint and combined operations through the campaign plan. The heart of the campaign plan is the commander's concept of operations which provides his intent and his vision of how the campaign will be conducted. It extends his intent through the force as each subordinate commander develops his own concept in consonance with his higher commander. Properly developed it provides unity of purpose and the basis for synchronizing operations. It also translates strategic goals into operational objectives.

Eisenhower provided no such vision because Casablanca had failed to establish a clear strategic purpose for Sicily. The Allies had not determined a mutually acceptable strategy for defeating Germany. Consequently, it was not clear whether Sicily was a stepping stone to Italy or merely an end in itself. The answers to these questions would have shaped the concept of the operations and provided unity purpose.¹¹¹

Without a strategic vision or a clear identified end state, the component commanders were left to develop their own plans for HUSKY. Alexander provided only the barest concept for the conquest of Sicily to his two ground commanders; Patton and Montgomery. The two army commanders never met to discuss campaign strategy and there was no coordination from Alexander's Army Group staff. As one British staff officer later wrote, "The two armies were left largely to develop their operations in the manner which seemed most propitious in the prevailing circumstances." Inevitably, the two strong willed commanders began to operate independently of each other and of Alexander.¹¹²

The U.S official history argues that these handicaps had little

impact early in the campaign. They became evident only in August when the Axis forces began evacuating.¹¹³ No joint plan was ever developed to prevent the evacuation and records fail to indicate that it was ever considered during planning. At no stage did the component commanders represent to Eisenhower that an opportunity existed to trap the enemy, requiring the immediate concentration of Allied efforts. As a result,

Each of the three services operated independently of the others, doing what it thought best to prevent the evacuation. Since the issue was not presented before the Chairman of the board (General Eisenhower), the issue remained unsolved, and the Germans and Italians completed one of the successful evacuations ever executed from a beleaguered shore.¹¹⁴

The British after action report summarized it best when it termed the campaign "a strategic and tactical failure" and a "chaotic and a deplorable example of everything that planning should not be."¹¹⁵

OPERATIONAL MANEUVER

With planning conducted independently by the separate component commanders, HUSKY was also plagued by poorly synchronized operational maneuver. Operational maneuver seeks surprise and shock effect. This allows the commander to seize the initiative and is keyed to positioning operational forces to defeat the enemy's center of gravity in order to achieve the strategic aim and the operational objectives of the campaign. With an ill-defined strategic objective and no unifying concept of the operation, it is not surprising that the Allies failed to make maximum use of their combined forces and failed to adequately synchronize maneuver.

The final HUSKY plan developed by committee "never explicitly contemplated a decisive victory or a masterstroke which would strike a crippling blow against the enemy forces."¹¹⁶ While Allied leaders believed that there would be a decisive victory, the plan was cautious and conservative and designed only to occupy Sicily. At no time during the course of the planning did the Allied commanders contemplate an envelopment or attacks behind the enemy's flanks.¹¹⁷ Patton's amphibious end runs late in the campaign represent the tactical application of maneuver that should have been applied at the operational level as well.

The key to a decisive victory was to choke off Axis use of the Messina Strait. Amphibious landings near Messina and on the toe of the Italian boot along with secondary landings in the south would have left the Axis forces in a hopeless position; cut off from reinforcement and escape. The failure to consider this option had a greater impact when the Axis began their masterful evacuation. The German commanders later expressed bewilderment at the lack of Allied boldness and vision. Before the end of the campaign, Eisenhower acknowledged that the Allies had been too cautious and remarked that simultaneous landings should have been conducted.¹¹⁸

Caution and poor synchronization also characterized ground operations. As previously mentioned, Alexander had no concept other than "a power drive, a frontal assault along a single sector of the coast . . . the two Allied armies were to land abreast and advance together . . . the only risks in the plan were strictly in the matter of supply." His idea of first consolidating his base on the southeastern coast offered little scope for maneuver for the purpose of destroying the enemy forces.¹¹⁹ Alexander preferred to allow the land battle to develop before he made any decisions concerning the specific conduct of his two armies. Patton and Montgomery each conducted their advance almost oblivious of the other until Alexander permitted Montgomery to attack across the U.S. front. This effectively pinched off the American supporting attack. The Axis forces were now faced only by Montgomery where before they were confronted by the combined weights of the two Allied armies. Patton's drive to Palermo was considered more as a harmless outlet to his tremendous energies than as support for Montgomery. The resulting loss of momentum and initiative needs little elaboration. Such ad hoc decisions by Alexander thoroughly undermined efforts to synchronize the advance of the two armies.

Carlo D'Este correctly concludes that a decisive defeat of Axis forces in Sicily required a synchronized joint air, ground, and naval effort that was never forthcoming. The maneuver advantages of superior air and naval power were never pressed to their full capability. As FM 100-5 states, "the product of effective synchronization is maximum economy of force, with every resource used where and when it will make the greatest contribution to success and nothing wasted or overlooked."¹²⁰ J.F.C Fuller

observation on HUSKY provides a fitting conclusion to issue of maneuver,

. . . the most economical solution was seaborne attack, because he who commands the sea can nearly always find an open flank leading to the enemy's rear--the decisive point in every battle. This was the lesson of the Sicilian Campaign, and it was not learnt.¹²¹

OPERATIONAL FIRES

Operational fires are "the application of firepower to achieve a decisive impact on the conduct of the campaign." It is through the union of fires and maneuver that we seek to destroy the enemy's center of gravity and shatter his cohesion. In addition, fires provide the "enabling, violent, destructive force essential to realizing the effects of maneuver."¹²² As an integral part of the campaign plan, the coordinated use of both fires and maneuver should be evident throughout the campaign. Finally, operational fires focus on one or more of three tasks; facilitating operational maneuver, interdiction, and destroying critical functions and facilities. Measured against these criteria, Allied synchronization of operational fires was plagued by problems of organization, planning, and interservice and inter-allied rivalry. An examination of the Allied air and naval operations reveals the degree to which these flaws adversely affected synchronization.

Echoing current Army doctrine, operational fires for HUSKY were largely the responsibility of the theater air forces; Air Chief Marshal Tedder's Mediterranean Air Command. Tedder shared with his fellow U.S. air commanders the prewar struggles to establish an independent air force. He was unwilling to sacrifice their newly acquired autonomy for Allied unity of effort. As D-Day grew nearer, Army and Navy commanders were concerned that air plans had not been integrated with the ground and naval plans, "Simply put, the Allied air forces . . . refused to work out detailed plans with the Army and Navy."¹²³ The final plan was so vague that one American general criticized it as "masterful piece of uninformed military prevarication totally unrelated to the Naval and Military Joint Plan." In reality it was more a concept than a plan, dealing for the most part with broad policies. Except for establishing air superiority, there was nothing in the concept that suggested an intention to accomplish any of the tasks currently associated with operational fires.¹²⁴

Tedder's attitude was that the other commanders should tell him what they wanted and he would deliver it his way. He believed that the ground commanders would not employ air forces properly and stubbornly resisted measures that he regarded as subordination to the army or navy. Additionally, the Allied air forces had established their own agenda for defeating the axis through air power. They were concerned with enemy air and strategic targets at the expense of joint synchronization.¹²⁵

The air forces were not the only obstacle that hindered the synchronization of operational fires. The Allied navy was very reluctant to provide operational fires in support of amphibious envelopments. They feared risking the fleet against what was later found to be a minimal threat from a few shore batteries and a thoroughly cowed Italian fleet.¹²⁶

The conduct of the campaign demonstrated Allied inability to synchronize operational fires. While the air force succeeded in eliminating Axis airpower, their independently planned and executed interdiction operation failed to isolate the battlefield by crippling the enemy's LOCs. Cities located on the LOCs were heavily bombed believing it would interrupt vehicular and boat traffic. It killed few Germans and actually slowed the allied advance.

The Allied air and naval commanders failed individually and collectively to interrupt the LOC through Messina. German supplies and reinforcements were rarely interfered with. This failure was more apparent after the successful withdrawal of Axis forces out of Sicily. A joint air-naval offensive to interdict the evacuation was never developed nor was there any attempt to synchronize interdiction efforts with ground operations. Despite aggressive intentions, the air forces never made an all out effort to stop the evacuation. Only a small percentage of the total number of sorties flown were against targets in the Messina Strait. In addition, they attacked the wrong targets and only at night. The Germans merely switched to daylight. The massive offensive capability of the Navy was never brought into play and proved to be even less a factor.

The failure to prevent the evacuation can be directly attributed to the failure to synchronize Allied operations. After Sicily came the Italian campaign, fought against the same German forces that had escaped from Sicily. As result, Sicily was indeed a "bitter victory."

V. CONCLUSIONS

With limited forces, nearly everything that happens nowadays is a joint operation. No one service plays a paramount role.

Lord Louis Mountbatten¹²⁷

While the passage cited above was written nearly fifty years ago, it remains especially valid today. The recent changes in the strategic environment have yet to run their full course, but the U.S must be prepared for a wider range of contingencies those we have emphasized for the last forty years. The complexity of the new environment suggests that future conflict will be characterized by joint and combined operations. Synchronization will be the key to the success in these joint operations.

Several critical synchronization issues confront the commander in joint and combined operations. The first of these is the recognition that synchronization is largely misunderstood within the joint community. Joint doctrine establishes its importance in the design and conduct of campaigns but provides little guidance on how to achieve it. Doctrine also establishes the campaign plan as the CINC's doctrinal vehicle to achieve synchronization; primarily through the assignment of command relationships, concept of the operation, and task organizing. However, the campaign plan focuses too narrowly on forces and not on the effects achieved by forces conducting operational functions and activities.

In addition, the campaign plan frequently fails to convey the time-space relationships that are critical to the synchronization process. In future campaigns, the scarceness of resources will mean that CINCs must carefully allocate and arrange forces in both space and time in order to concentrate the fleeting effects they achieve at the decisive point. This requires that the commander thoroughly understand the capabilities of each component of the friendly force in addition to the enemy. Lastly, the CINC must reduce the desynchronizing effects of interservice and inter-allied rivalry. In spite of claims to the contrary, no one service or nation military force can claim a paramount role in future joint and combined operations. Together, the preceding issues establish the criteria for successful synchronization.

One graphical approach to synchronization is the operational

synchronization matrix. It can assist the commander in allocating forces and arranging operational activities to create the desired effects at the critical time and place. It also helps the commander insure that he has considered all available assets in developing the campaign plan. Finally, it promotes a joint approach to the problem of synchronization. Operation Husky offers "bitter" testimony of the failure to properly synchronize joint and combined operations.

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